

hood of Wellington Inlet, on the chance of finding a passage through the ice. He was accordingly last seen by Capt Forsyth, steering a westerly course, under a heavy press of sail, though at too great a distance for communication. When, and from what quarter, we may next hear news from the many voyagers, it were difficult to surmise.

A letter from poor, silly Mr. Smith O'Brien to a friend at home has been published in the London papers. It is not calculated to elevate him in the eyes of his countrymen, the gist of it being that he is very hardly treated by the authorities of Van Dieman's Land, coupled with the candid confession that he has nobody to thank for it but himself. When he undertook his famous project, and so ludicrously exaggerated in his own eyes his personal influence and the means at his disposal, he did but take rank with other credulous and inflated adventurers; now that he seeks to excite sympathy by a parade of his own egregious folly, he ceases to have any chance of obtaining it, even from the least reflecting of his quondam admirers.

The quarterly returns of the revenue have been published; and they are pronounced by the Liberal journals highly satisfactory, notwithstanding that they show a diminution of receipts on almost every branch. Diminished taxation and "peculiar circumstances" are named with confidence as justifying causes; for sagacious readers of controversial journalism must long ago have observed the different construction put upon statistics, according as they tell *for us*, or *against us*—in the former case they are plain, palpable, and never to be gainsaid—in the latter they may be very easily explained. The upshot is, however, that the decrease on the quarter ending the 10th inst., as compared with the corresponding quarter of 1849, amounts to £289,000; but we are very happy to set off, against this, an increase on the year's returns of £645,475. Accounts also generally tend to show the well-doing of the country, and even the agriculturists are less loud in their complaints than they were.

The Queen returned to Buckingham Palace, from Balmoral, her Scottish retreat, on the evening of the 11th inst. Her leisure time of freedom from the cares of state has been passed mainly in mountain expeditions, and in exploring the natural beauties of her favourite resort.

The news from England is barren of interest, no public event of importance having occurred, although as usual in such cases, minor matters assume a certain degree of consequence. The intelligence brought from the Arctic Seas, by Capt. Forsyth of the *Prince Albert*, and detailed in our columns last week, has been thoroughly tested, and the fragments of rope which he picked up at the supposed encampment of the Franklin Expedition have been submitted to the examination of the proper Dock Yard officers. The result shows a probability, almost amounting to a certainty, that some portions of the Expedition had encamped on the spot where these relics were found. Cape Riley, it will be observed, is at the entrance of Wellington Channel, which has not hitherto been explored, but to which attention has been mainly directed, both in England, and by the American parties engaged in the great work of searching for the lost. Capt. Ommaney, however, who had visited this spot the day before Capt. Forsyth reached it, and it may be presumed had better means of forming an opinion, found sufficient reasons to induce him to push on to the westward towards Cape Walker and Melville Island, in preference to hovering about the neighbour-

**A NEW PLAN OF SEARCH FOR SIR JOHN FRANKLIN.**—A writer in the *National Intelligencer* contends that, taking for reliable data the statements of Surgeon Kane, of the American Searching Expedition, there is still hope for the Franklin Expedition. He suggests that—

“In case another Expedition is fitted out, a more minute search for the missing navigator may be made through the aid of balloons, with which, and the required apparatus, the vessels may be provided at the time of sailing, and, when arrived at the supposed vicinity of the missing expedition, these balloons may be sent up from the decks of the vessels, or from the ice or land if convenient, and their elevations governed and regulated by cords, so as to attain any required height, and give to the aeronaut a view of many miles over the land, or ice and less barriers, where probably at the time, vessels, or expeditions on the ice, could not proceed in every required direction.”

The writer in the *Intelligencer* is more fully convinced of the good results which might arise from this plan of search, after having noticed a few days since in the public papers, the fact of the late American and English Expeditions having wintered within fifteen miles of each other, and neither aware of it at the time, which fact goes to show in what close proximity it might have been possible for the searching Expeditions to have been to that of the missing one; for if the Expedition had been provided with the means of search, he supposes their proximity in their winter quarters would have no doubt been known, and had they got frequent elevations at the different stations they have occupied while on their Arctic cruise, Franklin and his companions might have been, ere this, in all probability, released from their Arctic prisons, and restored to their families and friends; and he offers, as further argument in favor of this mode of search, the opinions of the officers of both the late American and English Searching Expeditions, that Franklin and his companions are locked up in some position in the ice, where neither Expedition have been able to find passages or penetrate—which opinions certainly tend to encourage and strengthen this mode of discovering the unfortunate mariners.

. From the New Monthly Magazine.

### CURIOSITIES OF ARCTIC TRAVEL.\*

We have already given a general idea of what was accomplished by the Arctic expeditions under the orders of Captain Austin and Captain Penny, in their adventurous search for Sir John Franklin and his gallant companions. The two great features of these expeditions were the travelling parties sent out by Captain Austin in search of the missing expedition, over ice-clad waters and snow-bound lands, exposed to an unparalleled amount of cold, and great privations; and the boat and sledge exploration and discovery of the prolongation of Wellington Channel, by Captain Penny and his party. The details of these particular expeditions having been now presented to both houses of Parliament by command of her majesty, we gladly avail ourselves of the opportunity of conveying to our readers some further idea of the character of these exploratory travels, of the labor and privations undergone, the discoveries effected, and the new experiences of Arctic life presented to us in these truly remarkable exploits.

The preliminary labors of Lieutenants Aldrich and M'Clintock, in advancing depôts, in September, 1850, in order to aid the parties which were to start in the spring on more extended journeys, are not of sufficient interest to merit more than cursory mention. It was even found advisable to have these depôts examined and increased, and, in the instance of that on the north-west point of Somerville island, advanced to the south-west point of Lowther Island, before the spring travelling parties set out. This was not without reason; for at the latter depôt the greater part of the provisions were found to have been destroyed by bears and foxes. Even the iron potato cases had been crushed, and, in several instances, literally torn. Mr. Geo. F. M'Dougall's party fell in with some of these bears, which, after keeping them company some time, passed ahead, faced round, and advanced towards them, apparently with the intention of attack. The sledges were accordingly stopped, and the party armed with pikes to receive their Arctic assailants. Mr. M'Dougall having, however, shot one of the younger animals, they all judged it prudent to retreat. Before doing this, however, a large old bear placed herself in such a position as to enable the young wounded animal to grasp her hinder quarters with her fore paws, and then trotted off with her burden faster than they could walk, turning occasionally to watch their proceedings. "Never before," says Mr. M'Dougall, "had I witnessed such an instance of devoted affection in an animal, which, though wounded severely by Corporal Beer and myself in the back and foot, continued at the post of danger until we had closed within fifty yards, when, maddened with rage and pain, she advanced rapidly towards us. At this somewhat critical moment I fired, and struck the bear in the head; and, rubbing the wounded side occasionally in the snow,

\* Report of the Committee appointed by the Lords Commissioners of the Admiralty to inquire into and report on the recent Arctic Expeditions in Search of Sir John Franklin; together with the Minutes of Evidence taken before the Committee, and Papers connected with the subject. (Presented to both Houses of Parliament by command of her Majesty.)

Additional Papers relative to the Arctic Expedition under the Orders of Captain Austin and Captain Penny. (Presented to both Houses of Parliament by command of her Majesty.)

she made off, and left the young bear to her fate, which was soon decided by a bullet." The flesh was found, however, to be in very bad condition, and the party obtained only about twenty pounds of fat, which answered admirably for fuel, when mixed with tallow.

So much for a bear story. The notes of occurrences are throughout full of characteristic episode, the more naïve and original according to the character of the narrator. Thus, Mr. M'Dougall records that, on the 16th, "during the evening, Richard Ellis complained of snow blindness; dropped some opiate of wine into each eye, which caused almost immediate relief. Held a musical festival this evening, which lasted till past midnight." A musical festival amid ice and snow, with little or no covering, the temperature so low that the bottles of water kept close to the body became solid, and kept up to midnight, does not convey the idea of exceeding enjoyment. One only wonders that the sound did not, as in a well-known apocryphal instance, freeze in the air, only to melt and produce mysterious music in the height of summer, to the astonishment of some wandering Bruin or lonely walrus.

The experience obtained in these preliminary excursions was of use to those subsequently undertaken at greater length. It was found that the cooking apparatus was not strong enough to stand the wear and tear; that the allowance of tallow or spirits of wine for fuel was not sufficient to cook their provisions with comfort; that the substitution of more bread for less pemmican was desirable; and that chocolate was preferred for breakfast, tea making but a light meal to travel on.

We now turn, then, to the more important sledge expeditions, beginning with that of Captain Ommanney as first in rank, and whose instructions were, we find, distinctly to search to the southward and westward, between Cape Walker and Banks' Land, in such directions as might appear likely for the missing expedition to have taken; should the coast be found to present bays or inlets, one party was to examine those, whilst the other was advancing to the westward. It is obvious, from these instructions of Captain Austin's, that he had a westerly prolongation of the research in view towards Banks' Land, which we find Captain Henry Kellett considers may be one with Melville Island (a very doubtful circumstance), and that he never contemplated that southerly trending of the coast followed by Captain Ommanney and Lieutenant Osborn, which kept the party so far to the eastward as to leave a space of eleven degrees of longitude between the coast explored by them and the said Banks' Land, at least so far as the latter is known; and thus the whole question as to whether Sir John Franklin's ships sailed through any portion of these eleven degrees to the south-westward, or upwards, by Wellington Channel, is as much in doubt as ever.

The sufferings undergone at the very onset by Captain Ommanney's party, from frost-bites and snow-blindness, were so severe, that, before they had been out a fortnight, many of the men were disabled, and a sledge had to be sent back, thus reducing the division to four sledges. By the 29th of April (the party started on the 15th) Lieutenant Osborn was perfectly blind. The sun proved, indeed, throughout as great an obstacle to progress as the frost. It obliged them always to travel by night only. On the 4th of May, it was found necessary to send back another sledge with inva-

lids. Out of sixty days that Captain Ommanney's party were out, ten were most painfully passed within the narrow limits of a tent, during violent gales, with heavy snow-drifts, rendering travelling impossible; five more were delayed by casualties, and in examination of the land. The party encamped, during this long period, but eight times on dry land.

At first starting, as may be easily imagined, the travellers did not sleep, from the novelty of their situation; but they soon got over that. A specimen of one day's travel at the outset will give a general idea of the system pursued. The hour for breakfast will read strange to the uninitiated:

*Wednesday, 16th of April.*—The strength of wind, with falling snow in our faces, the weight of the sledges, together with the uneven, hard ridges of snow, rendered the work of dragging very laborious. Two, A. M., division encamped near broken, hummocky ice; wind S. S. E.; thick weather, with snow. After partaking of some tea, got into blanket-bags by four, A. M. Did not sleep, owing to novelty of situation. Throughout the day the gale continued to blow with squalls, with drift and snow. The same weather continued through the journey. At three, P. M., aroused the cook to prepare breakfast; gale moderating; heard the floe crack several times. Five—read prayers, and breakfasted on tea and cold pemmican. Received the medical officer's report, "All well," and a satisfactory one from each officer of the efficiency of each party; none appear to have slept sound.

The thermometer at this time was  $+14$ , that is to say,  $18^{\circ}$  below freezing point. The order of proceeding was in one line, each sledge following in the wake of the next ahead. A "spell O" was made every half hour, when the leader was changed—a precaution to prevent the eyes, being overstrained, the leader having nothing to relieve the glare of the surrounding floe; two officers half a mile in advance to lead the way. They had not been out four days' marches before they found out that they were quite out of place in the Arctic regions, and that human beings had indeed no right there whatsoever. "The scene around us," says the report, "was one of peculiar solitude and gloom; nothing but a snowy desert encircled by the horizon, without a speck for the eye to rest on; human life appears intrusive and unwelcome in such a region of desolation." Luncheon usually consisted of cold salt pork, biscuit, and half-allowance of grog; water was procured by dissolving snow or ice in the cooking apparatus. Pipes were enjoyed at every meal, and the men were in general cheerful and willing at their work. At times they were enabled to make sail on the sledges with floor-cloths, which answered admirably, and relieved the men, some requiring but two men to drag.

Kites were tried, but found useless, the speed of the sledges slackening the line which caused them to fall. When it blew hard, the sledges scudding along before the wind, with their sails set, looked like a fleet of junks.

One of the earliest inconveniences experienced after frost-bites, snow-blindness, and painfully cold winds, was from the shrinking of the canvass boots. The cold also began to penetrate through the blanket-bags, preventing sleep at day. This was when the wind blew from the north, and the thermometer fell to  $+5$ , or  $27^{\circ}$  below the freezing point. On the 22d of April, the thermometer fell to  $-15^{\circ}$ , or  $47^{\circ}$  below freezing point, a tem-

perature which, combined with wind, appears to have put a stop to all work. The men were glad to get into their bags, but several were severely frost-bitten. The cold was intense, the canvass of the tents not thick enough to keep out the wind, and that, with the tents themselves rattling about their ears, put sleep out of the question. Hot soup, at such crises as these, was found particularly refreshing. "But," says one of the reporters, "let it not be supposed that our hardships and privations were not attended with concomitant comforts—comforts whose extent can never be felt by those who are accustomed to the luxury of beds, or even to the bare ground in less rigorous climes. Not the tired soldier, when, after a long march, he wraps himself in his cloak, and lays him down by the watch-fire—not the South American horseman, to whom sleep has been a stranger for thirty hours, when, overpowered by drowsiness, and with his bridle twisted round his arm, he drops from his saddle and falls into a delightful slumber—not the laborer who, after a heavy day's work, returns to his humble dwelling to refresh himself in sleep—none of these can imagine the enchanting dreams and delicious repose experienced by the Arctic traveller, when, with his pemmican stowed comfortably away, he ensconces himself for the night in his blanket-bag. The agreeable passages of the past, and all that imagination can prompt as delightful for the future, pass across the dreamer's mind, and banqueting halls, with tables groaning under a profusion of luxuries, are laid out before him. This latter image is more vivid if the day's meal has happened to be more meagre than usual."

On the 23d of April, Captain Ommanney describes himself as taking formal possession of the land, in the name of our gracious sovereign, and planting the "British flag" in the ground, with three cheers. This was the happy land, in which "human life appears intrusive and unwelcome." The acquisition of so desirable a piece of territory will, no doubt, add considerably to the power and prosperity of Great Britain, and the dignity of the sovereign. It is but fair to say, however, that some hares and snow-buntings were seen; and traces of Eskimos were also observed upon this desolate land. By the eighth day, the strength of the men was becoming affected by the severity of the weather, and confinement to tent. Mock suns were very common, and the more brilliant as the cold was the more intense; or, as one of the men had it, "When them ere sun-dogs shows themselves, we always gets double allowance from Jack Frost." At such times, the thermometer fell to  $-39$ , or  $71$  degrees below freezing point. The poor fellows, under these circumstances, bagged as warm as they could, but being unable to sleep, singing was commenced after grog, and kept up till breakfast and prayer time. Hot coffee was very naturally found to be the most enjoyable and warming drink under such circumstances. On the 12th and 13th days of March, the sky cleared, and the sun's rays are described as "scorching;" this with a temperature in the shade of from  $34$  to  $62$  degrees below freezing point! The consequence of the glare was increased snow-blindness, and Lieutenant Osborn was once more totally blind for some time. The treatment adopted was dropping wine of opium into the eye—the pain of which was excruciating.

At this time, traces of foxes and ptarmigan were observed. On the 15th day of March, a real live

hare was actually seen, and on the 19th a dark-colored fox—the only one met with. Prints of reindeers' feet were also observed. On the 25th day of March, they saw a covey of nine white grouse. This nine-grouse land was also immediately taken possession of in the name of Queen Victoria. By the 28th of March, several men were ill, and all were complaining of weakness, and pains in the shoulders. When the men were "particularly miserable," Captain Ommanney says he issued an extra allowance of grog at luncheon. Some very vain attempts were made under the circumstances to try and kill time by an odd number or two of "Chambers' Journal," and smoking; but even the two opiates combined had little effect upon cold, and cramps, and pains, arrayed on the other side in a tight little phalanx of evils. On the thirty-third march they winged a ptarmigan, but could not catch it; hares were also more numerous; but although the party, on their side, failed in getting any fresh provisions, a fox succeeded, on his, in getting a meal off a gun-covey. At length, on the thirty-fifth day of travel, they turned their backs on what Captain Ommanney justly calls "this miserable gulf—probably the first and last Europeans ever destined to sight its dreary shores."

On their return, the temperature began to rise considerably. The thermometer was at times above freezing point. The heat in the tent is described as "quite oppressive;" grass and moss began to appear, and with it traces of deer. On the fortieth march they shot their first ptarmigan, and on the forty-first two were killed. The same man, Campbell, shot two more on the forty-fourth march, and a bear was seen the same day. This was off Cape Walker, where gulls are described as breeding in great numbers on the cliffs. On the 9th of June, summer suddenly burst on the travellers, and seals and ducks were seen, in addition to bears, deer, foxes, hares, ptarmigan, and gulls. On Thursday, the 12th of June, they were awoke at three, p. m., by a dog barking, which proved to be at a bear close to the tent, and they soon heard his growl; all roused up in confusion on finding such an unwelcome visitor so near—the gun went off by accident; Bruin then poked his nose against the tent poles, which brought the tent down upon the top of the whole party, and left them at the mercy of the beast. As they emerged, they got a view of him—an enormous, ugly brute, whose curiosity was drawn to a blanket, bag, and knapsack; in the mean time Campbell got the other gun, and wounded him in the fore-leg, above the paw, when he retreated, to their great relief. Captain Ommanney then followed him up with Campbell, and after a chase of a mile, (the bear on three legs,) he made a stand, under a hammock, at twenty yards, and the last of Bruin is thus narrated: "Put a ball through his shoulder and chest, and left him to die." In the evening they went out and skinned it.

On the 14th of June, Captain Ommanney regained the ships, after an absence of sixty days, "deeply grateful to the Almighty Disposer of all events for numerous mercies vouchsafed." His mind, he further says, firmly convinced of the impracticability of any ships navigating along the coast that had been explored, because shoals extend along the greater portion of it. This is so far true; but when the gallant captain afterwards adds, he can entertain no hope of ships ever reaching the continent of America south-west of Cape

Walker, we are bound to say, that however likely such a statement may really be, we do not see that either Captain Ommanney's or Lieutenant Osborn's explorations have in any way settled that point. They have left, as before stated, an extent of eleven degrees of ice, land, or water, unexplored between Cape Walker and Banks' Land; and it does not exactly follow that, even suppose no ships could navigate the coast explored by these gallant officers, there might not be, at certain times and seasons, navigable waters to the south-west throughout any part of the before mentioned unexplored space.

The journals of the other sledge parties present so many features in common one with the other, that we shall not repeat details, but content ourselves with selecting points of novelty in Arctic travel. In the journal of her majesty's sledge *Succour*, Lieutenant Mechem, we find it noticed that one William Tullett had brought with him a pair of boots made of blue cloth, with leather soles, and lined with blanket, and that with these he did not complain of cold feet, and found no difficulty in getting them off; whereas the shrinking of the canvass boots was one of the chief grievances the men had to complain of. Lieutenant Mechem also advocates, as do others, the use of robes made of buffalo-skins; and most of the officers agreed in condemning the tents, as too small, and wanting more cloth.

On Lieutenant Browne's expedition with the sledge *Enterprise*, and which travelled for some distance along the eastern shores of the land explored on the western side by Captain Ommanney and Lieutenant Osborn, one of the first discoveries was a poor little snow-bunting, frozen to death. Lieutenant Browne very wisely set the men to work at once enlarging the obnoxious canvass boots across the instep, so as to enable the men to wear more wrappers on their feet, as also to facilitate pulling the boots on when hard, and taking them off when shrunk. On the 26th of April, there is no record of the temperature on this journey, for the very satisfactory reason that the mercury was frozen in the neck of the instrument. The chronometer also stopped, apparently from excessive cold. On the 13th of May, a wolf came up to the tent, and was wounded, but made his escape. On their way back, we find the following entry: "Eleven, p. m. (May 24.) Observed some dark objects on the floe, a long distance off, which were at first supposed to be seals, but which proved to be a travelling party, under command of Mr. Krabbe, from her majesty's ship *Assistance*, having some provisions, and for this party among the rest." What a difference! and how can we enter into the feelings of the tired wanderers, revelling in all the luxury of preserved milk and extra tea! Lieutenant Browne is, like the rest, an advocate of Liebig's doctrines for keeping up animal heat in the Arctic regions. He says less pemmican is wanted, but more fat, tallow, spirits, and tea. The strait explored by Lieutenant Browne, and which extends between North Somerset and the newly-explored lands, he thinks is rarely, if ever, sufficiently open for the purposes of navigation. We should be inclined to suppose so too, and think it a pity that his party and sledge were not sent to the westward of Cape Walker, instead of south-eastward.

The first day that Lieutenant Osborn parted company with Captain Ommanney, to proceed further westward, (March 17th,) his journey lay across long projecting spits of shingle, with ground

ed ice, amidst which his party killed a fox. On the 26th, having made sail on the sledge, it went on so fast, rising and pitching over the snow ridges, that the men had to run to keep up with it. It merely required to be steered by a drag-rope; and occasionally a man was obliged to sit on it, to retard its progress. The canvass boots were on this occasion found useful, after the summer thaw had set in. At this time saddle-back seals were abundant, and geese, phalaropes, and dovekies, were wending their way northwards. Gulls of various kinds, burgomasters, and boatswain birds, were also flying about. Traces of bears were exceedingly numerous. In June, the country around Cape Walker appears to be redolent with animal life.

In a second account of the same journey, by Mr. R. Vesey Hamilton, the crop of a ptarmigan is described as having been opened, and the contents found to consist of willow buds, "very good indeed." Mr. Hamilton added to previous explorations an examination of Young and Lowther Islands.

Lieutenant Aldrich explored part of the coast of Cornwallis Island, Bathurst Island, the Straits and Island of Byam Martin, and the coast north-westward of Bathurst Island, to beyond the 76th deg. of north latitude. This party, having made holes in their tent for ventilation, suffered less from condensation inside. They complained of the "perfect nothingness" for the eye to rest upon, as more trying than the brightest sun. On the 26th of April, the twelfth day of travelling, they saw two deer—this, it is to be observed, considerably to the northward of the journeys we have been hitherto describing. On the 27th, the thermometer being 68 degrees below freezing point, the hot grog was frozen inside the tent, if not soon drunk. This day they saw four deer grazing. On the 7th of May, the first two birds passed them. On the 17th, herbage was abundant, but the weather of that dark and dismal nature, that Lieutenant Aldrich says, although a colored object was visible, his head and face came in contact with a ridge of rough ice ere he saw it. At length, fuel failing, they were obliged to return, the men heartily surrendering their grog for fuel, to continue their search after their missing countrymen. The weather, during the greater part of this expedition, was very boisterous and hazy, and all the party suffered much from frost-bites and snow-blindness. Lieutenant Aldrich describes himself as walking alongside the sledge, keeping his eyes intently engaged in looking at it, to relieve them. "It is impossible," he says, "to describe the pain and feeling which the complete absence of light and shade creates." On the 3d of June, they stumbled, to their great delight, upon fresh water running down the hills. While they were filling their cans, a flight of ducks, no doubt intending to alight there, flew past close overhead, but were, unfortunately, out of shot before the guns could be got at. After this, the weather continuing to get warmer, they saw plenty of deer, but too wild to be got at. They succeeded, however, in killing a bear. Lieutenant Aldrich appears to have been pleased with everything—tents, canvass boots, and wolf-skins; and reports himself always as especially enjoying "supper, prayer, and rest." He had just the frame of mind to meet the privations, and to contend against the difficulties, of an Arctic sledge journey.

We now come to that which, next to Mr.

Penny's discovery of Queen's Channel, was the crowning exploratory journey of the whole expedition—that is, Lieutenant M'Clintock's sledge journey to Melville Island. This expedition was assisted, the first day of starting, by the wind, sail and kites having been set. The weather, however, was cold and gloomy, with snow. On the 22d of April, the party came up with the ruins of an Eskimo encampment, around which were many whalebones and footprints of reindeer, glutton, lemming, bear, and foxes. The next day the wind was so cold that frost-bites were constantly playing about the men's faces. Scarcely was one cheek restored, when the other would be caught. It was too cold to lunch, and many were also severely frost-bitten in their feet. On the 24th, the interior of the tent was so cold, that the steam of cooking, mixed with the moisture of the breath, condensed in such quantities that each flap caused a shower of fine snow to fall over the men, penetrating and wetting their blanket-bags. The 25th, Lieutenant M'Clintock describes himself as much struck with the beauty and luxuriance of a bright red lichen, on sandstone rocks. On the 27th, they passed the tracks of thirty or forty reindeer, almost all of them going northwards; and on the 28th they saw deer and tracks of musk oxen. On the 29th, Mr. Shellabear returned to the ships, in charge of a number of men disabled by frost-bites and sickness. "It was with sincere regret," Lieutenant M'Clintock records, "that I bade farewell to those poor fellows, whom it had become necessary to send back. Unconscious of the danger of neglecting their injured extremities, and despising the pain which labor occasioned, they still desired to go; and their sad countenances betrayed the bitter disappointment felt at being unable to proceed further on our humane mission."

The cold was so intense at this time, that the bottles of water, carried by the men in their breasts, were generally frozen after an hour or two; the fat of salt pork broke like suet, and the rum became thick. It required considerable precaution to drink out of a pannikin, without leaving the skin of the lips attached to it.

On the 30th, Cape Cockburn bearing W. N. W. ten miles, they crossed upwards of forty bear-tracks, and, shortly after pitching their tents, one of this numerous tribe paid them a visit:

The guns were prepared, (says Lieut. M'Clintock,) men called in, and perfect silence maintained in our little camp. The animal approached rapidly from leeward, taking advantage of every hummock to cover his advance, until within seventy yards; then, putting himself in a sitting posture, he pushed forward with his hinder legs, steadying his body with his fore-legs outstretched. In this manner he advanced for about ten yards further; stopped a minute or two intently eyeing our encampment, and snuffing the air in evident doubt; then he commenced a retrograde movement, by pushing himself backward with his fore-legs, as he had previously advanced with the hinder ones. As soon as he presented his shoulder to us, Mr. Bradford and I fired, breaking a leg, and otherwise wounding him severely; but it was not until he had got 300 yards off, and received six bullets that we succeeded in killing him. It proved to be a large male, extremely thin. All the fat and blubber, amounting only to 50 lbs., was taken; also some choice steaks. The stomach contained portions of seal.

How patient in the pursuit of his prey must these furry denizens of the icy regions be, to catch

so wary an animal as a seal—an animal that the sledge parties never succeeded in capturing or shooting! How long a period must they go sometimes between meal and meal!

The first thing the party found, on reaching Byam Martin Island, was the dung of deer and oxen. The beach was a mixture of gravel and mud. On some of the very few patches of land, bare of snow, there was a good deal of short grass, moss, and saxifrage. Mr. Bradford having shot two large hares, they had stewed hare for breakfast. There were also ptarmigan on the island. Another party of invalids was sent back from hence to the ship.

On Sunday, the 11th of May, they celebrated their arrival at Melville Island by an extra issue of grog. Here the parties separated, Lieutenant M'Clintock continuing his way to the westward, Mr. Bradford following the eastern coast. Melville Island was found, at the onset, to abound, as Sir Edward Parry ascertained to be the case, in animal life more than most of the Polar lands situated in more southerly parallels. Traces of bears, foxes, and ptarmigan and snow-buntings, were seen on the second day. Traces of oxen were seen on the 13th. On the 14th, Lieutenant M'Clintock shot two large hares and a ptarmigan. These, he says, as well as the hares subsequently seen, were beautifully white, and of large size, and they were as tame as any one most anxious to procure game could wish. On the 18th, they shot a bear, which added a little blubber and fat to their fuel. With such abundance, they were enabled to breakfast off a mixture of pemmican and ptarmigan, followed by bear-steaks fried in pork fat, and chocolate. The science of gastronomy appears to have been woefully neglected by the expedition, and Lieutenant M'Clintock speaks very disparagingly of the culinary practices of his followers. "My party," he says, "do not discriminate between the various kinds of meat, but zealously fill the kettle; and, as we have all pretty keen appetites, there is never any difficulty in disposing of its contents."

On the 19th, they saw a herd of ten musk-oxen, and soon afterwards a more distant herd of five. They approached the large herd cautiously, but not without being observed by the only one standing up, and which seemed to be on the look-out. Having got to within 100 yards, they shot the watchman—a bull, the largest and most formidable of the whole herd. The remainder continuing to gaze stupidly (poor things! unaccustomed to the sight of human beings), a cow was also shot. The same day, they saw four reindeer; three of them were perfectly white, the fourth had dark-colored sides. Certainly Melville Island seems, from some reason hitherto not accounted for, to be the great central station of animal life in those particular regions. This may be owing, in some degree, to the geological structure of the island, which may be favorable to the melting of snow and ice, and the production of vegetation.

Lieutenant M'Clintock describes the slope of the hill where the first hares were shot, as partially cleared of snow, and clad with mosses, saxifrage, drabæ, and tufts of short grass. This was on the 14th of May. But it is probably more particularly connected with the position of the land in reference to desolate southern regions, an open sea, and warmer temperature northward, and to connexions and relations with other lands or seas to the westward, which are as yet an enigma. Sincerely do we hope that Sir John Franklin's expedi-

tion may have been detained near some lands half so well provided with animal life, and we should have little to fear for them.

It is impossible to record the quantity of hares and ptarmigan shot by the party, and the number of animals seen. At one time we have a description of bears snuffing the air, and hunting for seals; at another, of new droves of musk-oxen. Thus, on the 22d:—

Made out a herd of musk-oxen with the spy-glass. They were more than two miles off, but the prospect of getting more beef, and of thus being enabled to increase our daily allowance, and also lengthen our journey, induced me to set off with a rifle. The herd consisted of eight full-grown animals. They did not see me until within 200 yards of them, and then they suddenly galloped away for a few yards, halted, and formed for defence in a semicircle, close together, with their heads down, their strangely curved horns resembling a row of hooks in a butcher's shop. When within 100 yards, I waited for several minutes until the largest one, which was on the left flank, moved so as to present his shoulder, and then shot him. Those nearest him moved out of the way as he reeled and fell, but otherwise they were not in the least disturbed, continuing in the same defensive posture until I had retired to a considerable distance, and then, without noticing their fallen companion, renewed their search for pasture, by scraping away the snow with their hoofs. Had it been my object to do so, I think I might easily have shot two thirds of the oxen we have yet seen.

The next day a party went to cut up the ox. The herd was grazing near, and actually took no more notice of their proceedings than so many tame cows!

Lieutenant M'Clintock disturbed, on the 24th of May, no less than eleven hares at the base of one hill. Their feeding-ground was covered with grass, not in tufts as before met with, but as in pasture land in milder climates. On subsequent days they were seen in flocks of from twenty to thirty feeding on the slopes of the hills. This abundance of fresh meat, with an unlimited allowance of excellent beef, soon made itself apparent in the increased strength and improved appearance of the party.

On the 28th of May, Banks' Land was seen. It appeared to be very lofty, with steep cliffs, and large ravines. The same day, being at the extreme westerly point of Melville Island, the coast was seen trending for the first time away to the northeast, towards a distant bluff, which formed a noble headland. Beyond this again, Lieutenant M'Clintock distinguished very high and distant land. The gallant explorer was induced, from all he saw from this advanced point of observation, to believe that the channel continues to the westward.

Lieutenant M'Clintock adds, however, that this discovery of land, extending from Cape Beechey to the westward for at least seventy-five miles, destroyed the ardent hope of finding their missing countrymen which had hitherto sustained them. There only remained the possibility of their ships having wintered on the northern shores of Melville Island, and of some of their parties having visited Bushnan Cove, described in such glowing terms: by Sir Edward Parry, either for the purpose of procuring game (of which he says the north shore is utterly destitute), or as a short cut to Banks' Land and the continent. He accordingly determined to visit it, and return overland to Winter Harbor, for which excursion he had just enough provisions remaining. They had now traced the

coast round from Point Hearne to Liddon's Gulf, in eight and a half forced marches; and the fatigue consequent on this, and the anxiety of the last few days, were beginning to tell upon all of them, but still they determined not to have a day's rest till they reached Winter Harbor.

They reached the cove—described as a dark, steep, rugged ravine, with a grand but rather forbidding appearance—on Sunday, the 1st of June, and there they found the remains of Sir Edward Parry's encampment of the 11th of June, 1820; no Arctic explorer having since that time got so far to the west. The details are sufficiently curious to deserve extracting:—

Leaving two men to prepare supper, for which purpose they were to collect the withered stems of willows, which are numerous here, I took the sledge and the other four men up the cove, in search of Sir Edward Parry's encampment of the 11th of June, 1820. On reaching the ravine leading into the cove, we spread across and walked up, and easily found the encampment, although the pole had fallen down. The very accurate account published of his journey saved us much labor in finding the tin cylinder and ammunition. The crevices between the stones piled over them were filled with ice and snow, the powder completely destroyed, and cylinder eaten through with rust and filled with ice. From the extreme difficulty of descending into such a ravine with any vehicle, I supposed that the most direct route, where all seemed equally bad, was selected; therefore sent the men directly up its north bank in search of the wheels, which were left where the cart broke down. They fortunately found them at once. Erected a cairn about the remains of the wall built to shelter the tent; placed a record in it, in one tin case within another. We then collected a few relics of our predecessors, and returned with the remains of the cart to our encampment. An excellent fire had been made with willow stems, and upon this a kettle containing Parry's cylinder was placed. As soon as the ice was thawed out of it, the record it contained was carefully taken out. I could only just distinguish the date. Had it been in a better state of preservation, I would have restored it to its lonely position. Some tin canteens or water-bottles were found. They were bright on the outside, but wet had lodged within, and rust had eaten small holes through all of them. The ammunition consisted of musket and pistol ball cartridge, packed in a preserved meat-tin, which fell to pieces as we attempted to lift it. The water had lodged about it, and the powder was reduced to a dark paste. In his account of this journey, Sir Edward Parry mentions a "sumptuous meal of ptarmigan" which his party enjoyed at this place. Their bones were still strewed about the encampment, and I was astonished at their fresh appearance; they were not decayed, but merely bleached, and snapped like the bones of a bird recently killed.

Found water along the beach, at the head of Bushman Cove, but it was too salt to drink. There appeared to be but little vegetation; the most common plant was the willow, and it bore no sign of returning spring. Found growing here the plant "*tetragona andromeda*," the same, I believe, that Mr. Rae used as fuel during his winter at Repulse Bay. It is somewhat remarkable that we have not met with it elsewhere since entering Lancaster Sound. A few ptarmigan were seen, and a dead lemming picked up, but no other indications of animals were met with, except the track of a fox.

The portions of the cart, which they brought away with them, furnished them with a sufficiency of fuel for four days. One of the tin vessels was also found to contain a mixture of tallow and linseed oil, and this supply of fuel was the more

welcome, as, their tallow and blubber being all expended, they had had only one spirit-lamp to cook with for some days past.

On the 2d of June they started back across Liddon's Gulf, visiting Hooper's Island on the way. Heard foxes imitating the cry of wild geese, to seduce them into their clutches. The same day they shot a young deer, one of several. He was nearly white, with horns two inches in length; the hair came out on being touched. When the young one was shot, it lay quietly down, and the others seemed unconscious of danger. As they advanced, he made an effort to escape, and whilst the men were employed skinning and cutting him up, the others trotted round them two or three times before they finally deserted their fallen companion. Just on getting into Winter Harbor, on the 5th of the same month, they shot two musk-oxen out of a herd of thirteen, and, the next day, one more.

The low land surrounding Winter Harbor (where an inscription, on a remarkable mass of sandstone, commemorates that the *Hecla* and *Griper* wintered in 1819-20) and the harbor ice were so completely covered with snow, that it was with difficulty the one could be distinguished from the other. The men were quite at a loss, and when told they were in Winter Harbor, dryly remarked that "it well deserved the name."

The representatives of the Arctic fauna were, however, both numerous and various here. There were musk-oxen, deer, ducks, plover, ptarmigan, (three of which were shot close to the tent,) and sandpipers. A hare, that was disturbed on their first approach from beneath the monumental sandstone-rock, came towards them, sat down quietly within twenty yards for some time, and then retired back again to her home. As they rested here a day, Lieutenant M'Clintock relates that they got on most friendly terms with puss. She regarded them with the utmost confidence, hopped about the tent all day, and would almost allow the men to touch her. Not wishing to repay such affecting confidence by ill-treatment, the lieutenant was obliged to reason some of the men out of their desire to carry her back to the ship as a "pet from Winter Harbor." "I have never seen," he adds, "any animal in its natural state so perfectly fearless of man; and there can scarcely be a more convincing proof that our missing countrymen have not been there. A ptarmigan alighted on the rock, and was shot, without in the least disturbing puss as she sat beneath it." Here are new experiences for the naturalist; hares and musk-oxen, that have not been seen before, are not afraid of them. Perhaps, indeed, only rapacious animals and most of the feline tribe are so by instinct, as in the case recorded of the bear, and only attack men when extremely pressed by hunger. The party gathered enough willow at this place to last two or three days.

At Fife Harbor they drew a record out of a bottle left by the *Hecla* and *Griper*, in 1819, and which was in a state of perfect preservation. At Bounty Island, in addition to the other birds previously noticed, they saw silvery gulls and dotterels, and brent-geese. Turf might be cut here in quantity; and sorrel, an admirable anti-scorbutic, was found at every place they landed. They also saw some seals of immense size, and strangely mottled. Beyond this they found the remains of Eskimo habitations. Shells were also picked up in abundance, showing the existence of shell-fish

even in these seas, which are only free of ice a few weeks in the year.

On the 11th of June, progress was impeded by the bursting out of water from the ravines, the flooding of the level grounded ice, snowy quagmires, and bare mud-banks. The sea ice between Melville and Byam Martin Islands was also found to be covered with wet, adhesive snow. On the 15th, they had stewed goose and ducks for breakfast, cooked with strips of gutta-percha, which burned well. On the 16th, they reached Byam Martin Island. Proceeding from hence, the snow being so soft that both men and sledge sank in it, the progress became still more laborious. On the 18th, they only made four miles, after nine and a quarter hours' toil. On reaching Bathurst Island they had the good fortune to find hard snow along the land; and on the 4th of July, after having overtaken Mr. Bradford's sledge party, they arrived safely at the ships.

In the journal of the proceedings of her majesty's sledge *Dasher*, Mr. W. B. Shellabear commanding limited party attached to the Melville Island branch, we find some account of how the bears get at the seals. This was on the 1st of May, when returning with invalids :

4 h. p. m. Observed two bears ahead ; lowered sails, and hid behind the sledges.

The bears then slowly came to within a hundred yards, and then began smelling round the hummocks. At last, the bigger of the two, having, we supposed, smelt a seal, commenced making a hole through the ice, close to a hummock, which he did by rising on his hind legs, and falling with the whole weight of his body on his fore-legs, and then scraping away the snow with his fore-paws. This he repeated until he had made his hole, and he then put his head and shoulders into it, and waited in that position for some time, the small one all the while watching the sledges attentively.

As there was no chance of his coming nearer, under present circumstances, and we were getting cold and tired of waiting, we thought it better to creep towards them, and get a shot where they were. I, therefore, having duck clothes on, crept out towards them, followed by one of Mr. Pearse's men at a short distance, Mr. Pearse keeping his gun as a reserve. Having got to within about fifty yards, and they appearing inclined for a start, I fired, but either missed him altogether, or only wounded him slightly ; for he made a run at me, and I retreated towards the sledge for my second gun, and the man behind me fired, and hit the small one. The men suddenly appearing from behind the sledges at that moment, they turned tail and ran. My second gun missed fire. Mr. Pearse and myself followed them to a short distance, but they were soon out of sight.

The regions explored by Surgeon A. R. Bradford, of the sledge *Resolute*, comprising, as they did, the coasts of Bathurst Island, Byam Martin Island, and the east coast of Melville Island, to 76 deg. 15 min. north latitude, presented much that was new and curious ; and yet the details, excepting that they found few or no live animals or birds, the only musk-ox seen having been found starved to death, and that Mr. Bradford hurt his leg, and had to travel by sledge, contain nothing worth extracting. Mr. May, of the *Excellent*, who accompanied Surgeon Bradford, is a clever draughtsman ; and he gives some capital sketches of himself and sledge party, of the coast of Cornwallis Island, Cape Cockburn, and Allison's Bay—all interesting points in Arctic scenery. We feel a wish that so

serviceable a draughtsman had been one of Lieutenant M'Clintock's or Captain Penny's parties.

The party of the sledge *Grinnel*, which went, under Mr. R. C. Allen's command, to search Lowther, Davy, and Garrett Islands, out in mid-channel, shot two bears when only four days' journey from the ships, experienced the usual hardships and sufferings, failed in getting to Davy Island, but otherwise met with no novel incidents. There were also several limited parties despatched with articles to refresh the extended parties on their return, examine depots, make observations, and fix positions ; but, excepting killing a few bears, and a tolerable number of birds, these limited excursions present few features of interest.

Lieutenant John B. Cator's account of the critical position of the *Intrepid* steam-ship, on the 27th of August, 1851, is interesting, as showing the peculiar dangers that attend upon Arctic navigation ; but we pass on to the report of proceedings of the travelling parties from the Aberdeen expedition, under Captain Penny. The first expedition was separated into two divisions—one to search the east side of Wellington Strait, under Captain Stewart, commanding the *Sophia* ; the other the west side, under Captain Penny. The arrangement made for these parties being, except that there were dog sledges as well as hauling sledges, pretty similar to those sent out by Captain Austin's expedition, the details and incidents of travel are nearly the same, and would only entail repetition. The dogs, useful to draw, were a nuisance at night, when they would sometimes make a dreadful noise, and were obliged to be watched, to prevent their committing depredations among the sledges. None of the party having been out on such expeditions before, some delay occurred in having to return to the ships to get the cooking apparatus and bedding and clothing put in better order. There were bears, hares, and ptarmigan on these coasts, but in very small numbers. On the 30th of May, Captain Stewart arrived at the North Channel, on the passage between the mainland and Baillie Hamilton Island, leading out of Wellington into Queen's Channel. Here, to his surprise, he found an open sea, and, to his mortification, had no boat to search further. A great many ducks were swimming in the water, sea-fowl of various sorts were abundant, numbers of seals were sporting in the water, and a bear was seen looking out for the seals on the edge of the fast ice. What a change of scene, from the monotony of ice and snow to an open sea, redolent of animal life ! Fresh birds enough to make a mess for all hands, were shot, as well as a fat seal—a great boon, as it gave them a great increase of fuel. In the evening a bear came up to the hummocks, and they sallied out to meet him, and " get some fun ;" but, tumbling about among the deep cracks, they had a good fright as well as fun, for the guns got full of water and they had nothing to defend themselves with. They got, however, several shots at bears during their stay at the edge of the ice ; but never being able to kill them at the first shot, they all escaped either to the water or the ice. Lots of snipe were flying about the beach. There were ruins of old Eskimo dwellings along shore, and many old whale-bones lying about, some of them deeply imbedded in the ground, a long way above the sea-level. When Captain Stewart returned to his ship, on the 1st of July, Barrow Strait was all open water. Captain Stewart ends his report with the following opinion, full of sound common sense, without any

bias for his friend Captain Penny's discoveries, or the failure of the government sledge parties:—

That Sir John Franklin may have gone up Wellington Strait is not at all impossible. I would, (after having seen in,) myself, if seeking a passage to the north-westward, seek for it in that channel. But the circumstance of Wellington Channel and the shores and islands of the more intricate channels to the N. W. of it having been thoroughly searched, without finding any trace of them, goes a great way to refute the idea of his having gone in that direction. But these circumstances, together with the late period at which the ice breaks up in the Wellington Strait, on one side, and the early period at which open water was found to the northward, and Sir John's first winter quarters, at the mouth of the channel, on the other side, leaves the question in the same doubt and uncertainty as ever.

Dr. Sutherland, in his report of the same journey, complains much, as did others, of excessive perspiration, and consequent sufferings of all from thirst. That which had been observed by others was also the dark and sooty appearance induced by cooking in the tent. May not this account for the dark appearance of the Eskimo, which has so much puzzled ethnologists? The doctor gives the preference to blanket squares, stockings, boot-hose, and moccasins, or carpet-boots, to canvass; as to leather, its use was almost invariably followed by frost-bites. One man had his nose frost-bitten from persevering in keeping it outside of his flannel-bag at night. On the 11th of May, a small amphipodous crustacean was picked up, and puzzled the doctor not a little to explain how it found its way to the surface of the floe.

The life they were all leading, with the track-belt over their shoulders, and a heavy sledge to drag along, the doctor says, seemed to agree with all of them, if sound sleep and keen appetites are signs of good health. Indeed, when the weather began to improve, the insatiable thirst, experienced at first, to diminish, and the men could get a satisfactory wash with soap and snow, they all felt so comfortable and cheerful, that they began to think nothing of Arctic travelling. It would appear, from the doctor's report, that all the more common Arctic animals and birds frequent the eastern coasts of Wellington Channel, although, perhaps, not in such abundance as in Melville Island. One day three bears swept furiously close by the sledge, showing off their ivory to a degree that rather intimidated the men, who were unarmed. A fox was seen at the same time. "Can the fox," inquires the doctor, "be to the bear what the jackal is to the lion?" In such a country we should say it was extremely likely.

Mr. Goodsir was the most joyous of all the travellers. His interest in the cause he was engaged in was deep, for his brother is one of the missing expedition. Everything, at least at starting, was *couleur de rose*, rather than snow-white. He liked his men; the hard work only gave the pork and biscuit a relish unknown to them for months back. Cupe Hotham, standing out in bold relief against the clear blue sky beyond was a "beautiful" scene. We do not remember the adjective in any other report. At night the snow formed "a most inviting soft bed," and the sounds of flute and accordion lulled them off to their slumbers. It is pleasant to travel in such company, even in the Arctic regions. This joyousness, it may be imagined, however, did not last long; first

came craving thirst, then fatigue, then snow-blindness and sore suffering, then frost-bites; the flute and accordion were heard no longer, and the sternness of the Arctic regions stamped their verdict against any trifling with the reality of the thing.

On the 15th of May they fell in with a post-office on their way—a letter left by Captain Penny on a high hummock of ice. On the 18th they shot a bear, with the blubber of a seal newly killed in his maw; so that he yielded altogether twenty or thirty pounds of fat. Plenty of ravens were attracted by the carrion. The next day they got into bad ice, full of holes. Mr. Goodsir was picking his way across this, leaping from hummock to hummock, amongst a number of small pools of water, when he was, he says, almost thrown off his balance by a loud noise, and the sudden appearance, within a yard of his feet, of a hideous face, with bright eyes and long protruding tusks. The poor walrus (for such it was) seemed nearly as startled as the doctor at their close proximity, and he at once made an unwieldy plunge out of sight. Within the next two or three minutes, three large seals were noticed at these holes, and another walrus. Mr. Goodsir's journal breaks off abruptly; but this is of less importance, as the main facts are contained in the evidence taken before the committee.

Captain Penny, being commanding officer, did not, it would appear, keep any very detailed journal; and the accounts published in the Blue Books of his exploration of Queen's Channel, contain little that has not been before the public. On the ticklish question of the navigation of Wellington Strait, Captain Penny and Dr. Sutherland gave it as their opinion—the latter having examined the point in question—that there was in that strait, in 1850, a breadth of fifteen miles of old ice—ice that had not been melted in 1849-50. Captain Penny did not think the navigation of Wellington Strait to be open more than once in two years; but as, in 1851, the strait was as open by the 25th of July, as it had been by the 8th of September, in 1850, it is possible that it may have been open last year. Such an opening might, indeed, he says, have been effected in forty-eight hours by a favorable wind.

Upon the subject of the letter written by Captain Penny to Captain Austin, stating that Wellington Channel was thoroughly searched, and that nothing more could be done, Captain Penny said that he confined himself to Wellington Channel.\* He had asked, he said, for a steamer, with which he would have waited for a month, till the ice cleared away, but was refused. He expected to have to traverse

\* This explanation, it is to be observed, was not admitted by the committee, who, having most carefully considered the whole question, were of opinion that Captain Austin could only put one construction on Captain Penny's two letters; and that having been assured by him that the open water found above Wellington Straits was, (to use his own expression,) from the fearful rate at which the tide runs (not less than six knots) through the sounds that divide the channel, dangerous even for a boat, much more to a ship, unless clear of ice, (which, from its present appearance, would not be so that season,) impracticable for navigation at that time, and that the shores and islands on both sides had been thoroughly examined by the exploring parties, without any traces of the missing ships being discoverable, they did not think that Captain Austin would have been justified in commencing a fresh search in a direction concerning which he naturally considered himself to have received such authentic information.

500 miles before meeting with further traces of the missing expedition. The last thing he said to Captain Austin was, "Go up into the Wellington Channel, and you will do good service to the cause."\* Captain Penny further added, that wood and foreign substances had been met with in Queen's Channel, thirty-four white Polar bears in all, a great many seals, several walruses, fourteen deer, and abundance of birds, especially on Baillie Hamilton Island. There were also a few crawfish, and a few small trout in a lake near Assistance Bay.

Captain Stewart, in his examination, admitted that there was a chance of the mouth of Wellington Strait being cleared last year. He said he could have gone anywhere to the westward, with a ship, from the edge of the ice—the ice remaining in Wellington Channel in 1850, that did not come out, was twenty or thirty miles in extent. He did not think it possible for any person, not having the means of subsistence, to supply themselves from the natural resources of the country; but they could make up something to increase their stores. He thought that there would have been time last year, after the ice had cleared away, to have passed up the straits. He thought Sir John Franklin had gone by Queen's Channel; he did not think he could have gone by the south-west. He heard Captain Penny ask Captain Austin for a steamer to go up the channel with.

Dr. Sutherland, in his evidence, also thought that, taking advantage of the late opening of the ice, with steam power, they might have been able to navigate through the Wellington Channel in the season of 1850. The next evidence had better be quoted:—

274. *Chairman*.—Did you see any leads or lanes through the ice in Wellington Strait at that time, that a steamer might have gone through?

*Dr. Sutherland*.—We saw sufficient to induce us to leave Wellington Channel, and we saw sufficient to induce us to remain there had we had steam power.

275. *Chairman*.—I asked you whether you saw any opening in the ice, or leads or lanes in Wellington Strait, at that time, that a steamer might have gone through?

*Dr. Sutherland*.—I must answer that in the negative. But at the same time, I think it is not doing justice. The fact of the strait being navigable by a steamer—

276. *Sir E. Parry*.—We want a distinct answer to a distinct question.

*Dr. Sutherland*.—Then my answer is no.

Now, what Dr. Sutherland meant to say is obvious: that the ice was breaking up at the time they left it; that there were no leads or lanes large enough for a steamer at that moment, but that such might very soon be expected. It was Dr. Sutherland's opinion that Sir John Franklin pursued the route through the Wellington Channel. The south-west passage by Cape Walker breaks up two months sooner than the north-west passage by Wellington Channel; but in the first, the ice breaks up into loose packs that would oppose progress, whereas, in Wellington Channel, it breaks up in large floes, that would permit of hasty and rapid progress close along the eastern shore.

Sir John Ross did not think that Captain Penny

\* Captain Austin, in his evidence, contradicted this statement.

had urged Captain Austin to persevere in an endeavor to go up through Wellington Strait. It was quite evident that there was no probability of a steamer, or anything else, getting up the channel. Sir John Ross did not think it probable that Sir John Franklin, or any portion of the crews composing his expedition, still survive. He did not think that British-born officers and men could withstand the effect of six winters, even if they had plenty of food.

Dr. William Scoresby, on the contrary, argues "that Sir John Franklin, or some portion of his associates, may still survive, is a position which cannot be controverted." With regard to the ships having been wrecked, he also thinks there is only one special case, and that he thinks not in the least degree probable in respect to the Franklin expedition, in which such summary catastrophe could, he believes, be rationally contemplated; and that is, the case of the ships being drifted out to seaward after the manner of Sir James Ross and Captain de Haven, and on approaching the seaward edge of a pack of ponderous ices being overturned by a heavy gale at sea—a contingency that has never yet happened. Dr. Scoresby believes that the Franklin expedition must, on the strongest probabilities, have proceeded by the Wellington Channel, and from thence north-westward into some remote position, or into some position of inextricable embarrassment among the ices of the north-west Polar sea.

Captain Austin does not, after having most carefully and most anxiously given the question his fullest consideration, believe, nor suppose it probable, that Sir John Franklin, or any portion of the crews composing his expedition, still survive. He considered that any search up Wellington Channel would be fruitless. He did not think that Sir John Franklin would, on his second season, and with only some twenty months of provisions, have gone up that channel, and that if he had, he would have left marks of taking possession on some parts of the coasts or islands of Queen's Channel; and he further adds, that the general feeling was in favor of the south-west passage, as Sir John Ross, Captain Ommanney, Captain de Haven, and Captain Penny, all left the Wellington Channel and proceeded towards the south-west. Lady Franklin, on his departure, expressed her anxiety that particular search should be directed to the south-west of Cape Walker; but not one word of Wellington Channel. Captain Austin's opinion is, further, that Sir John Franklin did not prosecute his researches beyond Beechey Island; but that, leaving his winter quarters, he was either beset on that occasion, or as he was attempting to return to England.

Captain Kellett considers that there is no evidence of Sir John Franklin's expedition having been wrecked; on the contrary, he thinks that there is evidence that they have not been wrecked; nor does he feel that it is in the power of man to say that they are dead, nor does he consider it right to do so, when we hear the evidence of the experienced traveller, Dr. Rae, as to the small quantity of food and fuel that will support vigorous life in those regions; as well as Captain Penny's and Lieutenant M'Clintock's account as to the number of animals that may be procured in a higher northern latitude. Giving Sir John Franklin credit for pursuing the object of his expedition, Captain Kellett thinks, also, that the ships will be found a long way to the westward of any

point reached by the parties from the late expeditions.

Captain Ommunney is of opinion, that neither Sir John Franklin, nor any portion of the expedition, can now be alive. This opinion is mainly based upon the fact, that when the expedition left Beechey Island in 1846, it had then less than two years' provisions remaining, and that the supply of birds and animals could not be depended upon for more than eight weeks out of the whole year. Captain Ommunney adds, that which appears to be corroborated by most of the exploring parties, that there are numerous old Eskimo settlements along the shores, and which, having been long untenanted, lead to a belief that a change has taken place in these seas, which, becoming blocked up with ice for a longer period of the year, has caused them to abandon the neighborhood. Captain Ommunney also believes that the expedition did not prosecute the north-west passage after leaving Beechey Island. Three of their young men died the first year, from which we may infer they were not enjoying perfect health. *It is supposed that their preserved meats were of an inferior quality.* No records being left, does not look like advancing; as Sir John Franklin and Captain Crozier, the latter of whom had served in four expeditions, were alive to the importance of depositing records. (It has been said upon this point, though we do not know upon what authority, that the records were missed at Beechey Island, by the searchers looking at the foot of the finger-post, instead of, as had been arranged by Sir John Franklin, at a certain distance from the post in the direction indicated by the finger.)

Dr. Sir John Richardson thinks it probable that part of the crews may still survive to the north or north-west of Melville Island. Many facts, he says, may be adduced to prove that life may be supported for a number of years on animals inhabiting the land and waters of the most northern known islands:

The existence of Eskimos up to the 77th parallel, and perhaps still higher in Baffin's Bay, is in itself sufficient evidence of the means of subsistence being produced in these latitudes. Except practical skill in hunting seals, and the art of building snow-houses, that people have no qualifications that may not be surpassed by the intelligence, providence, and appliances of Europeans. The islands lying to the north of Lancaster Sound and Barrow's Strait were once frequented by Eskimos, and the remains of their winter huts, though perhaps two centuries old, are still numerous along the coasts. Why these islands have been abandoned by them in recent times is unknown; but that the tribes that once resorted thither were not cut off by any sudden pestilence or famine, is apparent from the absence of human skeletons in the vicinity of the deserted dwellings; while the much-decayed bones of whales, walrus, seals, deer, musk-oxen, birds, and other animals, are abundant, and the small fireplaces built near the huts still contain morsels of charred wood, hidden beneath the moss which has overgrown them in the lapse of years. The absence of the natives is favorable, inasmuch as the animals, whether marine or terrestrial, not being hunted, will be more easily accessible.

Musk-oxen frequent Melville Island, and with ordinary caution a whole herd may be secured by moderately skilful hunters; since it is the habit of the animals to throw themselves into a circle on the approach of danger, and to remain in that position, with their heads facing outwards, though individuals of their number are falling from their ranks under

the fire of their assailants. Lieutenant M'Clintock, on his recent admirable pedestrian journey, shot a musk-bull, and having gone to his sledge for assistance, to carry down the meat, on his return with a party of men, found the herd still grazing beside their slaughtered leader. Reindeer also pass over from the continent to the island in numbers, in the months of May and June; and though they are shy animals if they be allowed to get scent of man, they may be readily approached on their lee side by a hunter who possesses the requisite stock of patience.

The nature of the country in the vicinity of the ships will necessarily influence its productiveness in animal life, and in the absence of information respecting it, our conclusions cannot but be in great measure conjectural. A flat limestone tract, whereon the surface-stone is continually splitting into thin slates under the action of frost, and from which the mud is annually washed into the sea by floods of melting snow, or a low, shingly, barren flat, such as that coasted by Captain Ommunney, produces few grasses and little vegetation of any kind; hence it is shunned by herbivorous animals, or, if they must necessarily cross it in their migrations, they do so at speed. But in the sheltered ravines of a sandstone or trap country, or in the narrow valleys which occur among granite or gneiss rocks, there are grassy meadows, to which deer and musk-oxen resort; the latter also frequent lichen-producing acclivities, which are generally denuded of snow by high winds. Mr. Rae saw the reindeer migrating over the ice of Dolphin and Union Straits in the spring and passing in great haste into the interior of Wollaston Land. There seems to be no reason why these herds should not range beyond the 80th parallel, if the islands reach so high; since the same kind of deer travel annually from the continent of Europe to Spitzbergen, over a wider expanse of sea-ice. Polar hares are also numerous on Wollaston and Melville Islands, and as they are very tame, and, consequently, easily shot, they add to the means of support. In the neighborhood of open water, the Polar bear is frequent, and being bold in its approaches, falls a ready sacrifice to a party armed with fowling-pieces. The simplicity of the Arctic fox renders its capture a very easy affair. Fish of various kinds are by no means scarce in the Arctic seas, and the fresh-water lakes abound in trout. Sir John Franklin was well acquainted with the methods of taking these by hooks, or in nets set under the ice in spring.

Brent geese, eider and king ducks, gulls, and many other water fowl, resort in the breeding season in vast flocks to the most remote islands; and it may be necessary to state here, that these birds reach their breeding stations in the high latitudes only in July; hence officers travelling a month or two earlier, when the ground is still covered with snow, are not aware of the manner in which the most barren islets team with life later in the summer.

Walrus and seals of several species were observed by Captain Penny and his officers to be numerous in Victoria Channel, and *beluge* and black whales may be looked for wherever open water of considerable extent exists. Both kinds abound in the sea that washes Cape Bathurst.

Captain Penny thinks it possible that Sir John Franklin and his crews, or a portion of them, may still survive, and he is firmly of opinion that the expedition pursued its course by Queen's Channel, and has got far advanced towards Behring's Straits. Such, then, is the discordancy in the opinions of a few competent persons, that while some think that the ill-fated expedition has succumbed to peril or exposure, few venture to speculate upon the safety of more than a portion of the gallant, though unfortunate officers and crews. We are still inclined to be more hopeful. The

opinions of such men as Captains Austin and Ommanney are deserving of the highest consideration, but it is impossible not to feel that they speak with the bias of men who have failed in their best endeavors, and, therefore, despair of anything. Sir John Ross acknowledges a bias in favor of the testimony of Adam Beck, designated by others as one of the worst kind of civilized savages. The opinions of Dr. Scoresby and of Sir John Richardson are of the highest importance. They are the result of deep consideration, and of a learned and enlightened view of all the circumstances of the case, and are in favor of our countrymen's still holding out. Sufficient stress was, indeed, laid by very few upon the fact of the new resources opened to the navigators by the almost determined existence of a Polynia, or open Polar Sea. The existence of such a sea had long been premised, and in the instructions given to the American expedition, we find it distinctly stated, that

The point of maximum cold is said to be in the vicinity of Parry Islands; to the north and west of these, there is probably a comparatively open sea in summer, and, therefore, a milder climate.

This opinion seems to be sustained by the fact that beasts and fowls are seen migrating over the ice from the mouth of Mackenzie river and its neighboring shores, to the north. These dumb creatures are, probably, led by their wise instincts to seek a more genial climate in that direction, and upon the borders of the supposed more open water.

There are other facts elicited by Lieutenant Maury, in the course of his investigations, touching the winds and currents of the ocean, which go, also, to confirm the opinion that beyond the icy barrier that is generally met with in the Arctic Ocean, there is a Polynia, or sea free of ice.

In a paper on the distribution of animals available as food in the Arctic regions, lately read by Mr. A. Petermann before the Royal Geographical Society, the author points out, that it has long been a common but erroneous supposition, that animal life within the Arctic regions decreases more and more as the Pole is approached. Many of the Polar animals are so thoroughly adapted to the intense cold, and other features of those regions, that they could not even exist in any other climate. Consequently, animal life is found as much in the Polar as in the Tropical regions, and though the number of species is decidedly inferior to the number in the latter, yet, on the other hand, the immense multitudes of individuals compensate for the deficiency in the former respect. Mr. Petermann also argues, from the prolificness of animal life described by Wrangell as belonging to the Kolynia district of Siberia, that the nearer Sir John Franklin's expedition may have approached the north-eastern portion of Asia, the more he may have found the animals to increase in number. As the Polynia, or its shores, is probably entirely uninhabited by man, the animals would be less timid and wary, and less thinned by the destruction that takes place in other countries for food, furs, or teeth. Under the circumstances of a Polynia abounding in animal life, Franklin's party could exist as well as other inhabitants of the Polar regions; and we must not forget that, in addition to the natural resources at their command, they would possess, in their vessels, more comfortable and substantial houses than any native inhabitants of the same regions.

Let us still indulge hope, backed as we are by

all the hopeful circumstances of the case, in the existence of, at least, some of our countrymen; and while our greatest hopes are, at the present moment, centred in the progress of Commander McClure and his party, in her majesty's ship *Investigator*, now frozen in somewhere between Behring's Straits and Melville Island, still we cannot but feel that the very greatest interest will attach itself, now that a channel to the open Polar sea has been discovered, to the expedition that will possibly have started by the time these pages appear, under the command of so able and so distinguished an officer as Captain Sir Edward Belcher. We at the same time cannot help expressing our regret that the services of Captain Penny should be entirely overlooked, and another person appointed to carry out his discovery. There is no doubt that Captain Penny allowed his temper to get the better of his discretion, in his final intercourse with Captain Austin, after the discovery of Queen's Channel; but it is difficult to say how far he was driven to such extremes by the tone too often assumed by persons in office, or what latent jealousy may not have been manifested at his and Captain Stewart's success. There are some points in Captain Penny's conduct decidedly open to censure; but they fade away into insignificance before the magnitude of his services. Sir Robert Inglis happily remarked, upon the paltry denial by official etiquette to the gallant mariner of his hard-earned title and reputation of captain, that gentlemen of the present day were apt to forget we had a Captain Cook. The case of John and Sebastian Cabot might have been quoted still more to the purpose. Although there is every reason to believe that these men, of Venetian origin, but long established in Bristol, anticipated Columbus in the discovery of the New World, and that Sebastian had earned, perhaps, the highest name in Europe for naval skill and enterprise; still, when application was made to Henry VIII. to fit out a new expedition, the command thereof was entrusted, not to Cabot himself, the early and able leader of such expeditions, but to Vice-Admiral Sir Thomas Pert, who turned out to be destitute of every quality requisite for so arduous a field of enterprise; and the consequence was, signal failure and discomfiture. The fact is, that without wishing to disparage the services of our "right arm," we must say it ill becomes them to treat the "left" with contempt; for the annals of discovery, of more real value than many a naval victory, have been more illustrated by the enterprise and skill of private than of titled mariners.

Lastly, we must not omit to point out, that as the mass of opinions are in favor of the view we originally held out, of Franklin's party having got fur away to the westward, the proposed attempt to reach the open Polar seas by forcing a way through Wrangell's Land, north of Behring's Straits, is highly deserving of encouragement and pecuniary aid.

for a winter journey northward, over the continent of Greenland. The London *Morning Chronicle* comments with much severity upon the ignoble termination of the Belcher expedition.

The public mind can hardly have been prepared for the closing scene in the drama of Arctic search. It is with pain that we are under the necessity of announcing, not only the return of Sir Edward Belcher, but the fact that he has abandoned, while they were yet uninjured and available for further service, the four fine vessels placed under his command; and, what is far higher import, that he has left the gallant Collinson to effect his own retreat.

It is to be presumed that Sir Edward Belcher will fully explain his proceedings as respects his own search for poor Franklin's party; and we conceive that the public will claim also to be fully informed why her Majesty's ships have been thus abandoned, in the face of instructions laid before the House of Commons and conveyed to Sir E. Belcher by the "Phoenix" in the present summer. These instructions, if they did not positively require extended search on behalf of Franklin's parties, most unmistakably enjoined such measures as might secure the safety of Captain Collinson, for the accomplishment of which the ablest means were placed at the disposal of Sir E. Belcher, and in pursuance of which he was further instructed to consult with the very able officers who accompanied him. Rumor is already busy, and it is stated that Sir E. Belcher's return to England is to be followed by courts-martial, and inquiries into disputes with his officers. It is not, we trust, owing to causes so ignoble as those that the public service has suffered and the claims of humanity been sacrificed.

Of the proceedings of the search we have yet only gathered that the division under Captain Kellett effected all that was anticipated, Commander McIlintock having completed a very extended sledge journey to the westward from Melville Island, occupying about 100 days, during which he found abundance of musk oxen and reindeer. The movements of Sir E. Belcher appear to have been limited, since the date of his dispatches received last year to his retreat upon Beechy Island: and the promiscuous land to the north and north-east of Wellington Channel remain therefore unvisited.

But amid all the gloom which hangs over the search for Franklin and his unfortunate companions, we may heartily congratulate the friends of Captain Collinson, upon his presumed safety, notwithstanding the detention to which Sir Edward Belcher's return has probably consigned him. As we have always anticipated, his course was precisely that of Captain McClure, whose first winter resting-place was attained in the following year by the "Enterprise," only four days after it had been vacated by McClure. Failing, as his predecessor had done, to accomplish the north-west passage through Investigator Strait, Captain Collinson ultimately found his first winter harbor in 1851-52 in Walker Bay, on the south side of Prince Albert Land, and he is known to have pursued in the following summer an easterly course along the North-American shore through Dolphin and Union Straits. He may thus possibly be able to carry his ship through Victoria Strait and Peel Sound into Barrow Strait, which would be effecting the north-west passage, though not by the channel that has been sighted, and so nearly accomplished by Captain McClure.

Our knowledge of these circumstances is derived from the records deposited by Capt. Collinson, and discovered by Lieut. Meecham. They further develop the singular fact that the same places were visited the same season by parties from the "Investigator" and from the "Enterprise," starting from widely different positions, and that the same point was actually seen by both within a few miles of each other; the spot where these records were deposited having been repeatedly yet unconsciously traversed by parties from all the searching ships. Such facts as these can not but shake any inferences drawn from the apparent absence of records.

Once more we may invite attention to the consolatory absence of all disaster in the returning Arctic expedition, or of mortality reaching even to the usual average; and again, too, it may be reiterated that the case of the Franklin expedition remains unaffected, except negatively. We do know that our missing countrymen have not been thrown upon the north-western shores of Melville Island, but we remain in doubt whether, after passing up Wellington Channel, their course was not directed to the unsearched lands then in sight, rather than toward the northern shore of Melville Island. It is therefore, upon the zeal, ability, and single-mindedness of Dr. Kane, in command of the American Expedition, that we now mainly depend, since his intended course, after passing up Smith Sound, will be toward the unexplored lands seen by Sir E. Belcher's expedition, lying to the north of Wellington Channel.

## DISCOVERY OF SIR JOHN FRANKLIN.

The intense interest which has attended these rumors, on account of the uncertainty that has so long hung over the fate of Sir John Franklin, and the fond hope still so widely cherished that his company might yet be discovered in the land of the living, will be dissipated by the report of the melancholy discovery by Dr. Rae, the overland explorer, of the remains of Sir John and his companions. We copy a brief summary of Dr. Rae's labors from the *Daily Times* of Oct. 14th.

"Dr. Rae has been for some years prosecuting inquiries on this subject along the borders of the Arctic Sea. It is stated that the unfortunate adventurers perished by starvation in the spring of 1850, northwest of Box river. The details of this intelligence will be awaited with great anxiety. Dr. Rae commenced his exploration in 1849, and according to his instruction was to be at the mouth of the Coppermine river on the first of July of that year, and to work his way from that point towards Barrow's Strait. That exploration proved unsuccessful, and he was afterwards directed to continue his researches during the subsequent year. These also proved unavailing; and in February, 1852, Dr. Rae returned from still another exploring tour down McKenzie's river, and eastward along the coast for five hundred miles without finding any traces of the party. The last traces of Sir John Franklin, it will be remembered, fixed the fact that he passed the winter of 1846-1847 on Beecher Island, where the graves of three of his companions, over six hundred cans which had contained preserved provisions, and other relics were discovered. The news of Dr. Rae's discovery will create a marked sensation everywhere, and further details will be awaited with great interest."

## DR. KANE'S EXPEDITION.

An interesting letter from an officer of Dr. Kane's ship was published in the *Herald* of last week. It detailed, more fully than had been done by any preceding publication, his proceeding along the coast of Greenland, and his success in obtaining Esquimaux guides and sledge-dogs, with other needful preparations, up to his arrival at Upernavik, since which nothing has been heard from him. He is pretty confidently expected home next month; but the following article, recently published in the *Washington Union*, shows how his expedition may be affected by the same state of things that embarrassed Sir Edward Belcher, the unfavorableness of the summer season for Arctic navigation, and that consequently it will be neither strange nor discouraging if Kane should not return until next year. We copy the article for the interest that is felt in the matter.

"When last heard from it was just, entering the *Devil's Trap*, as the whalers call it, at the most northern portion of Baffin's Bay. Two hundred and sixteen icebergs were in view from the deck of his little vessel. Through these and unnumbered groups of others beyond them, he was to thread his way into Smith's Sound; and thence, if Providence favored, into the Polar Sea.

"All afterward was to depend on the phases of that unvisited region. If by boats forced through the floating ice-fields, or by sledges drawn by dogs, he could push onward until he had crossed the great drift current that sets toward the Atlantic—that current which baffled Sir Edward Parry, carrying him as far back in the twenty-four hours by its southern progress as he had advanced over the moving ice in an opposite direction—Dr. Kane hoped to find memorials, at least, if not the relics of Sir John Franklin's party. It is plain to those who have studied the oceanic phenomena of the Arctic circle that the lost navigator must have been imbedded in fixed ice to the west of the inlet, through which he passed from Lancaster Sound; or else his vessel have yielded to this current, and their remains are to be looked for in the track which our countrymen intend to explore.

"The season of 1853 was an uncommonly open one. The reports of the whalers are unanimous as to this; and the immense ice-fields in the Atlantic during the last six months prove the same fact; for the ice which is encountered by navigators off our coast is always that which was detached by the Arctic summer of the year before. It is altogether probable, therefore, that the little company of the 'Advance,' when they had reached the furthest north which is delineated on our charts, found the way still an open one to those for whom dangers and difficulties were calculated things.

"The season of 1854, on the other hand, has been an uncommonly close one. It is the declaration of all who have visited North-Baffin during the present year—whalers, transport ships, and steamers under the conduct of British government officers—that there was neither hope nor chance for any vessel of fighting her way over the barrier that blocked up Smith's Sound.

"This fact explains why our gallant adventurers have not returned, as they proposed to do. At the same time it furnishes no ground of anxiety for their immediate safety. They are beyond the perils of the polar

approach, and their stores, carefully husbanded and reinforced by the hunt, will no doubt enable them to live and labor on till another summer. Their great risk is the character of the season which is to come. Should that also be a close one, they may themselves need the same office of charity they sought to render to Sir John Franklin."

The *Daily Times* of Tuesday, publishes the latter of Dr. Hayes entire, with the following additional remarks on Polar affairs:

Poor Collinson may share the fate of Franklin for any thing that now appears to inspire a hope to the contrary. Until England hears from us the news of the discovery of Franklin's remains, they who still entertain a forlorn hope that he may be safe, look for its fulfillment only toward the results of the American Expedition under Doct. Kane. But it is said that the ice has not been so packed into those Northern harbors at any time for forty-seven years back as during the past winter, and the summer just past was not warm enough to give any hopes that an exit could be made through the ice from the upper parts of Baffin's Bay. Whalers moreover report that they have not been able to cruise near as high as usual, the ice barrier extending much further south than is common. Hence it is not probable that we shall see any thing of the "Advance" before next summer.

We publish this morning a letter written by her surgeon, dated July 20th, 1853, which is the last that has been brought from this second Grinnell Expedition. At that time they were preparing to leave the little brig in Sir Thomas Smith's Sound—the very highest latitude yet reached in the Arctic Sea—and thence a party of nine, with an India-rubber boat and a most economical store of provisions, was to push northward over the ice, searching for the "Franklin." It will be remembered that the theory has been believed that the isothermal line is south of the latitude where the Doctor now is—that it is supposed to grow warmer as you pass northward from a point some way to the south of Smith's Sound, and even that an open sea may be reached by pushing far enough northward. Here, at all events, he was to prosecute his search. Feeding on "pemmican," carrying a wardrobe each of ten pounds, and in lighter spirits than we would suppose possible, they intended during the nine winter months to continue their search. They would return on foot, "in the darkness of the polar night, guided by their compass and the stars."

Doubtless they thought then that during July and August the ice would move out and allow the brig to move too. And until lately she had been looked for at this port. But what chance is there now for her return? Winter has set in, and there is little doubt but that the bold adventurers must spend another tedious nine months ice-bound. That it may be otherwise we can not but hope for a little while yet, though in the face of reason.

## EXPEDITIONS TO THE ARCTIC SEA.

SIMULTANEOUSLY with the loss of our noble steamer, named from the Arctic Sea, we have sad accounts of the upshot of the British explorations for discovery in that frozen ocean of the North. The large number of vessels which have been sent to those seas by the combined liberality of the British government and of individuals, specifically to endeavor to find out what had become of Sir John Franklin and his companions, who went out in 1845, have been singularly unfortunate in their results, owing, in many cases, to a want of capacity in their commanders; in other cases, to dissensions among the officers, and in part to contingencies which no human sagacity could have provided against. And at last, to the surprise and disgust of the British nation, we find that Sir Edward Belcher has suddenly abandoned a whole squadron of vessels, leaving them to the mercy of the icebergs, and has brought home his men in the two steam-tenders, "Phoenix" and "North Star," which were sent out last spring with supplies. There were six ships in those seas, only one of which is left behind, the "Enterprise," Captain Collinson, who went out in May, 1850, and of whom the last that is known is, that he wintered in safety in 1851-52, at the entrance of Prince of Wales Strait, about lat. 71 30, and lon. 119.

Sir Edward Belcher's squadron went out in 1852, wintered near Cape Cookburn, and found the following summer so unfavorable that, with their utmost efforts they only moved about thirty miles, and were there, packed in for another winter. On the arrival of the storeships, last summer, Sir Edward Belcher ordered the abandonment of the five vessels to their fate. The squadron has lost but fifteen seamen by death during the four years, with one officer, Lieut. Meecham, who discovered the latest traces of Captain Collinson, traveled over the ice in the winter seventy days, at the rate of seventeen geographical miles per day. He had six men with him, carrying their provisions, clothes, and fuel, with no assistance from the resources from the country through which they were traveling. This shows what can be done in Arctic traveling in winter, and proves the feasibility of Dr. Kane's plans

## THE NEW FRANKLIN EXPEDITION.

**SAILING OF THE PRINCE ALBERT.**—It is now fully expected that that the vessel will leave either this afternoon or early to-morrow — As the subject is one full of interest to the public, we have been at some pains to glean the following particulars regarding this new expedition :—

The design is to proceed direct to Griffith's Island, which is the appointed rendezvous, and the place where Captain Austin is likely to have deposited any important information of which he may be possessed. Should no such intelligence be found, the Prince Albert will proceed to winter ground, as far down Prince Regent's Inlet as can be reached for ice, possibly to Brentford, or Cresswell Bay, from which the boat parties will be dispatched. It is expected that a passage for a very considerable distance will be obtained for the boats at the channel, along the shore, formed by the flood tide, and which admits of boat, though not of ship navigation. Very much may be expected from the services of the boat parties; indeed, it may be safely affirmed that by this means alone can success be attained, if it is attainable. So far as human means can accomplish that result, we believe that, from the efforts of Mr. Kennedy, and his men, there is much to hope in the way of, at least, relieving the deep and universal anxiety that prevails as to the fate of the missing expedition. What adds to the reasonableness of this view is, that Sir John Franklin is most likely to have, if such a course had been practicable, retreated in the direction of Fury Beach, which Captain Forsyth nearly approached last year, but without landing, as the only spot where he knew provisions were to be left by Ross, and he would also naturally judge that thither would anxious eyes be turned to seek to effect his discovery.

If the *Prince Albert* should not accomplish the object of her search in the course of the year, or till the autumn of 1852. It is of course a

possible contingency that, though some measure of success be attained, the vessel may be prevented by the ice from returning this season, so that in either of these cases, namely, detention in the ice or want of success, the first year, we shall have to wait for the return of the Kennedy expedition till the autumn of next year. The *Prince Albert* is amply provided in the way of stores till that period.

It was at one period designed to adopt the plan recommended some time ago, of ascending in balloons, so as to command a bird's eye view over a wide extent and distance, and by this means gain an advantage in attempting to descry traces, if not the missing expedition itself.—Whatever merits such an expedition may have, it is believed that these machines, by occupying space, would impede the operations of the boat parties—an objection which must be regarded as fatal to the plan.

Mr. Kennedy takes out with the expedition seven carrier pigeons, which may probably be found useful as the means of conveying to this country or to America any information which he may deem important. Six of these birds have been presented by Mr. Hodgson, of London; and it is an important particular, deserving of special remembrance, that in the case of their arrival in this country, means have been taken to ensure that there shall be no mistake as to the birds themselves, and also that the tidings of which they may be the bearers shall not be lost. The first of these objects is secured by the name of the donor—Hodgson—being stamped on the wings with a red solution of an abiding quality; and the other, by the expedient of information being written in similar substance on thin linen, which is to be sewed about the leg. The other pigeon, which bears the name of Lady Ross, was presented by Mrs. Dunlop, of Ayr, and is believed to be the identical one (or one of two) sent home last year by Sir J. Ross.

It is a somewhat remarkable coincidence, that it is precisely six years on Monday last since the departure of Sir J. Franklin. To those who are apt to lose hope of the discovery of the missing expedition, or rather of its safety, it may be some relief to know that Mr. Kennedy entertains the most sanguine hope, or rather firm persuasion, that at least a portion of Sir John's party is yet alive.

Mr. Leask, ice master of the *North Star*, who piloted that vessel in 1849-50 through Baffin's Bay and Barrow Straits, is in command of the vessel. Embarked with them is John Hepburn. This brave man, who was with Franklin, Richardson, and Back, in their explorations of the shores of the Polar Seas, and whose noble conduct, under very trying circumstances has been fully recorded, has volunteered his services to go in search of his honoured master. The crew of the vessel—seventeen in number, are all picked men, most of them Orcadians, and a large portion being those who sailed in her last year. Most of them have arrived here, but it will be necessary to call for the others at Stromness. The expedition, it is stated, will be conducted on the teetotal principle—a principle on which Mr. Kennedy himself strictly acts, and which, it is believed, he deems of some consequence to the health and efficiency of the men, and the success of the expedition. An active and enterprising young man, named Cowie, goes out as surgeon.—He also has some experience, having already held that position on board of whaling ships. Mr. Kennedy, having crossed the broad Atlantic to undertake the duty, he goes without fee or reward, animated by a pure devotion to the service, and by a feeling amounting almost to a certain premonition of success. As affording a beautiful illustration of one of the virtues we have attributed above to Mr. Kennedy, we may mention that at his desire the crew met at the vessel on Sabbath forenoon, and proceeded to church in a body, himself and Captain Leask at their head, desiring in this way to acknowledge their dependence on Providence in their peculiarly arduous undertaking. As we have stated, M. Bellot, Knight of the Legion of Honour, and a distinguished officer of the French naval service, also accompanies the expedition. M. Bellot gives his services, which are likely to be of no small use, entirely without remuneration, and even Lady Franklin's pressing entreaty to be allowed to furnish his outfit was declined. Such an instance of genuine and expansive "fraternity" is an honour to M. Bellot and the French nation, and will touch the heart of Britain.

Lady Franklin, accompanied by her niece and never-failing friend, Miss Cracroft, arrived in Aberdeen on Thursday last, to witness the completion of the arrangements and the departure of the *Prince Albert*. *Aberdeen Journal*, 21st ult.

## THE ARCTIC EXPEDITION

The following letter from a correspondent with the Arctic Expedition appears in the *Daily Telegraph* of to-day (Tuesday):—

For the first day or two after leaving Bantry Bay there was a fair prospect of a good passage, but on the 4th of June it began to blow from the west, and during the whole voyage the Expedition encountered contrary winds, with very heavy weather. No Arctic expedition on record has had so long or so boisterous a passage across the Atlantic. Yet this was not without its countervailing advantages. All the gear aloft was thoroughly tried; all things below were shaken into their places; and the men, amidst discomfort and hard work, more quickly formed that brotherhood upon the strength of which so much depends. Their appreciation of the nature of the service, and general good feeling, was shown by many little things. For instance, on the 1st of June the petty officers came aft and requested to be allowed to take their turn at the wheel with the rest of the men. The scale of diet for each man is 1 lb. of biscuit every third day, and 1 lb. of flour for bread on each of the two intervening days; every other day 1 lb. of corned beef or corned pork alternatively, and on the intervening days 3 lb. of preserved meat and  $\frac{1}{2}$  lb. of salt meat; every fourth day 1 lb. of compressed vegetables, and on the others  $\frac{1}{2}$  lb. of preserved potatoes;  $\frac{1}{2}$  lb. of preserved soup every fourth day;  $\frac{3}{4}$  lb. of flour, suet, and raisins every fourth day;  $\frac{1}{2}$  lb. of split peas every fourth day, with  $\frac{1}{2}$  oz. of calary seed to every 8 lb. of peas; 1 oz. of chocolate,  $\frac{1}{2}$  oz. of tea,  $\frac{1}{2}$  oz. of sugar, 1 oz. of lime juice, with 1 oz. of sugar for lime juice; 1 oz. of pickles and  $\frac{1}{2}$  a gill of rum daily;  $\frac{1}{2}$  oz. of mustard,  $\frac{1}{2}$  oz. of pepper a week; 2 oz. of preserved fruit and  $\frac{3}{4}$  of oz. of sugar for fruit twice a week, and oatmeal, vinegar, and salt as necessary. It is intended to add  $\frac{1}{2}$  lb. of preserved meat on salt meat days, so as to give some fresh meat every day—for the salt beef is hard, dry, and very bad, and it enters but too largely into the scheme of diet. In the forenoon every man comes on deck to drink his ounce of lime juice, which is of excellent quality.

The bad weather began on the 11th of June, when the south-westerly wind increased to a gale, with occasional violent squalls, and the Valorous parted company, to make the best of her way to Godhavn. On the 12th it fell calm, with a heavy swell, but on the 13th all three ships encountered a gale of unusual strength, undoubtedly a portion of a cyclone travelling rapidly to the eastward. The Alert was steering north, on the south-east side of the circular storm, the vortex of which was moving to the north-east. In the evening it was blowing a whole gale, with the barometer falling rapidly; green seas were coming in fore and aft, and both ward-room and lower decks were flooded. She was evidently very close to the vortex of the storm, and at ten P.M. the barometer had fallen to 28.82. At the same time the ship was worn, and took in a green sea over the stern, almost simultaneously the wind shifted to the north, showing that the Alert had been within a very short distance of the vortex, and that she was now on its weather side. The barometer began to rise again, but the gale from the north continued through the night. On the 15th the wind gradually died away to nearly a calm, but on the 16th there was another gale of wind from the west-north-west with a heavy sea, the ship lying to and drifting to leeward. On the 20th, the gale continued, heavy seas coming in over the fore-castle, and washing fore and aft, and the cutter was nearly lost, being caught by a sea and half filled. A succession of gales with heavy seas continued until the 27th, when the Alert was at length to the westward of Cape Farewell, and making for Cape Desolation, on the West Coast of Greenland.

It was on the 27th of June that the first ice was seen—a sight which was new to most of the explorers, and which gladdened their hearts. Mr Egerton was officer of the watch, and charging a formidable block, he was the first to make the ship touch the ice. At 5 P.M. on the 28th the Valorous was sighted on the land round Cape Desolation, the lofty snow-covered ridges and peaks with clouds hanging over them. This land is the most interesting in Greenland, here the old Norse colonies were planted, and this coast was first touched at by Sir Martin Frobenius, who named it "Charing Cross," and afterwards by John Davis, who gave it the name of "Desolation."

During the following week the ships passed close along the Greenland coast, sighting all the peninsulas and entrances to fjords, which excited much interest on board. The officers of the expedition were most anxious to acquaint themselves with the history of Greenland, but this natural desire for information could not be gratified, owing to an oversight in not supplying a proper Arctic library for the use of the Expedition. There are about seventy Arctic books that might be available, for reference of which only forty have been supplied, while the missing works include all those relating to Greenland.

On June 29th, from daylight until 10 A.M., the Alert was passing through a stream of very heavy floe pieces, and sustained several severe bumps. Some of the pieces were two or three hundred yards long, others were fragments of pressed up hummock ridges, from 20 to 40 feet high. Many were worn into fantastic and beautiful shapes, the wash of the sea having frequently worked laterally into the ice blocks until they consisted of two floors, connected by ice pillars of the deepest blue. This old ice was streaming from the east coast of Greenland with the current, which is usually lost or deflected again near the Arctic circle. The ship was clear of the ice before noon, and in the following night a gale of wind came on, and a very heavy confused sea, with high perpendicular waves, which made her roll gunwales under, and ship seas over the stern and fore-castle. The 1st of July was a lovely day, and in the afternoon the Discovery was sighted about ten miles in shore. She had parted company during the cyclone of June 13th. Had experienced the same weather and had shaped almost the same course, but was actually in the ice during the gale of wind of June 29. The long succession of heavy gales has tried the gear of the ships and has left various marks. Two valuable whale boats have been stove and destroyed, one in each ship. In the Alert the iron main traps, the patent wire rudder chains, and the chain trays of both topsail halliards were carried away, and the iron trysail masts were started on all three vessels.

After the 1st July the Alert and Discovery proceeded up the coast in company, passing Sukkerhoppen in the 3d, Holsteinborg, with all its dangerous outlying rocks and reefs, on the 4th, and the grounded icebergs off Ripkoll on the 5th, and on the morning of July 6th the Alert and Discovery anchored in the harbour of Godhavn or Leively, at the south-west end of the Island of Disco, where the Valorous had arrived on the previous Sunday evening, July 4. Godhavn is the principal Danish colony of North Greenland, and the residence of the inspector, Mr Krarup Smith, as well as of Mr Elborg, the governor.

The island of Disco is in several respects an excellent locality for acquiring a first impression of the Arctic regions, and of their flora and fauna, while the geology presents points of special interest. It is here that the volcanic formations overlie the gneiss, and the basalt presents sections in some of the ravines which were carefully studied. Here, also, there were special advantages for studying Arctic physical geography, the effects of frost and ice upon the rocks, the influence of summer rivers, the glacial phenomena, and those connected with the formation of drift and breakings up of icebergs. From the summit of the Lyng Marshens feld, 2300 feet above the sea, which overhangs the harbour of Godhavn, there is an enchanting view of Disco Bay, dotted with hundreds of bergs, and the fiord of Jacobs-havn, with its great discharging glacier, whence the icebergs were drifting in a continuous stream, was clearly visible. The Arctic officers eagerly examined and studied these phenomena, climbing the treacherous basaltic mountains, exploring the wild gorges, and crossing the flooded torrents. Icebergs were visited as well as the coast at Ovfah, whence the Swedes carried off the now famous meteoric stones in 1871.

The valleys and gorges of Disco, especially the Lyng Marshens and the shores of Englesmandershavn, in their gay summer clothing of mosses and wild flowers, furnish an excellent example of the flora of both North and South Greenland, both of the plants which will become familiar to the explorers further north, and of the less hardy species which don't occur beyond this parallel. Of the 206 species which compose the Arctic Greenland flora, upwards of two-thirds were collected by the expedition round Godhavn, and they were thus enabled to form a practical acquaintance with the plants they are likely to meet with in the unknown region. The vegetation covers the ground in thick masses, forming turf on the level places, while it fills the chinks and crannies of the rocks, and creeps over the surface of the stones, giving a very bright appearance to the near view of this land of Disco in summer. The prettiest thing of all and the most abundant is the club moss (*Cassiope tetragona*), with its graceful little white bell-shaped flowers, like miniature lilies of the valley. With it are generally the dwarf willows and birches, and the vaccinium, with its red flower and glossy little leaves. But for the plague of mosquitoes these lovely mosses would form soft and most luxurious beds. The *herbaria* formed at Godhavn will be most useful to the explorers in studying the botany of the unknown region. Disco is also a specially good locality for commencing the acquisition of a knowledge of the Polar fauna, for here the Arctic and the sub-Arctic forms meet. Great northern divers, razor-bills, puffins, barlequin ducks, mergansers, skuas, sheatsears, pipits, and some phalaropes and sandpipers are seen at Disco, and not further north. At the same time the officers of the expedition have become

acquainted with most of the true Arctic birds, as well as with the eggs of many of them.

Dr Moss had examined many organisms brought from the surface water of Davis Strait, and the contents of a dredge containing molluscs, holosperia, and crustacea, from thirty fathoms, on the Torskie Bank, and he had made careful coloured drawings of all the microscopic organisms that were new to him. With reference to the scientific labours of the expedition, Captain Nares issued a very judicious memorandum to Commodore Markham and to the other officers at Godhavn. In order to render the scientific results of the expedition as valuable as possible, he expressed reliance upon the co-operation of each member to assist in forming collections of, and in preparing, natural history specimens. While the most important specimens will be required hereafter for the great national collection, any supplementary collection will, after a proper inventory is made of it for publication in the general account of the voyage, be at the disposal of the collector. Any paper or description composed for the information of any learned society will be forwarded to its destination through the Secretary of the Admiralty by the earliest opportunity, as an original paper by the writer.

Commander Markham, and Lieutenants Gifford, Archer, and Fulford, were fully occupied with magnetic observation drawing several days, obtaining satisfactory independent results for dip and variation; and Captain Nares, with Lieutenant May, fixed the position of Godhavn and made a survey. Other instruments were also tried, while Mr White and Mr Mitchell got to work with the photo-graphic apparatus, and obtained a dozen excellent negatives.

The Arctic Expedition was at Godhavn from the 6th to the 13th of July busily engaged in filling up with coals and provisions from the Valorous, and receiving most hearty and cordial assistance from the captain and officers. The Alert also received much head gear and two boats, besides the little canvas coracle belonging to Captain Loftus Jones, which will prove very useful in sledging operations. The Discovery then filled up, and there was nothing that the officers of the Valorous were not ready to supply, from a topmast to a harmonium. On completing this work, Captain Nares addressed an official letter to Captain Loftus Jones, expressing his warm appreciation of the obliging assistance the Expedition had received from the Valorous, and especially thanking Mr Cyre, the first lieutenant, Mr Gair, the paymaster, and Mr Coade, the chief engineer.

Mr Krarup Smith, the Inspector of North Greenland, and Mr Elborg, the Governor of Godhavn, were most anxious to furnish all the aid in their power. They had received orders from the Danish Government respecting the supply of dogs, and twenty-four good Greenland dogs were ready for embarkation at Godhavn, and twenty at Kittedbenk. Mr Smith also supplied the Expedition with a large net for catching white whales. The twenty-four Godhavn dogs were taken on board the Alert, and at 4.45 P.M. on Thursday, the 15th of July, the Arctic Expedition left Godhavn with the intention of going up Disco Bay to Rittenbenk, passing down the Waigat between Disco and the Nourvan Peninsula, and thence onwards to Upernivik. The Alert proceeded with the Discovery in tow, followed by the Valorous. The crews' nests were in their places, and the boats (no longer on the skids as when crossing the Atlantic) were all hoisted up to davits.

The surface of Disco Bay was like glass, and was dotted over with icebergs of great size and most fantastic shapes; while to the left rose basaltic cliffs forming the south shore of Disco. At midnight of the 15th the Alert passed close under the landward face of a magnificent iceberg, a cliff of dazzling white, the top of which was covered with "mollies," which flew up in a great cloud. On the other side the berg rose to a peak two hundred feet high, under which there was a grand arch, the sides being of a deep rich blue. The sea was smooth as glass, and the sky seen through the arch was crimson tinged with gold. As this scene of wondrous beauty presented itself, the Valorous hove in sight through the arch, her dark hull and tall masts standing out against the brilliant sky. Passing the settlement of Rittenbenk, the Expedition anchored in a deep fjord, extending up to the foot of the central chain of Arve Prins Island. The Discovery here received her twenty dogs—good serviceable animals. During the afternoon of the 16th Commander Markham, with Lieutenant Parr, Mr Egerton, and Dr Moss, took a party of men in two boats to Svete-Fogle Bay, on the north-west coast of Arve Prins Island, where there is a "loomery," and succeeded in bagging 75 looms, dovekeys, and razor-bills, sufficient to supply officers and men with excellent fresh meat for two days. Other officers were away fishing and exploring the islands.

The Valorous was to sail at four the next morning, and proceed to the Rittenbenk Kolbross, on the Disco shore of the Waigat, to coal, and the Discovery ships were to follow two hours later. The 16th of July was, therefore, the last day on which the gallant explorers would see any of their countrymen. At midnight the captain and officers of the Alert assembled in the ward room to bid farewell to one who had been their messmate thus far, and who was the last Englishman whose hand they would grasp for many a long day. Healths were drunk in bumpers of champagne, three hearty cheers from officers and men sent their echoes over the fjord, and their last seen friend was pulled on board the Valorous at one in the morning of July 17 by the four lieutenants, Aldrich, Parr, Gifford, and May, with Commander Markham at the steer oar.

The Valorous sailed from Rittenbenk at four A.M. of July 17, the Alert and Discovery following, and at eight A.M. the Arctic ships could be made out from the stern of the Valorous, with their mastsheads and yards showing above the icebergs. At one P.M. the Valorous anchored off the coal-bearing cliffs on the Disco shore of the Waigat. From the hills there was a magnificent view of icebergs streaming out of the Tossukatch fjord, at the head of which there is a great discharging glacier, and down the Waigat and among them the Arctic ships could be seen over on the Greenland side of the strait, under all sail. They were standing down the Waigat (the Alert leading), appearing and disappearing behind the huge icebergs about six miles off. At five P.M. the Valorous hoisted a signal at all three mastsheads—"Farewell! speedy return." It was not seen for a long time, but at last the Discovery hoisted "thank you," and afterwards the Alert ran up the affirmative pendant. They continued to stand on and were just about to disappear behind a point of Disco Island, when, at 6.15 P.M., the Alert hoisted a signal to the Discovery, "Do you wish to communicate?" A few minutes afterwards the Alert went about, apparently intending to beat up to windward and communicate with the Valorous, and at 6.30 P.M. she hoisted a second signal to the Discovery, "Optional beat to windward." Then a fog suddenly sank down on the water, and hid both ships from view. Supposing that they were beating up to her anchorage, the Valorous went on blowing the steam fog horn every ten minutes, but when the fog rose again towards morning the Alert and Discovery were nowhere to be seen. When the fog came on the intention of communication must have been abandoned, and the Arctic ships must again have stood down the Waigat, and proceeded on their way to Upernivik. May all success and prosperity go with that gallant band of dauntless explorers.

After passing down the Waigat on the 17th July, the Arctic Expedition would probably be at Upernivik on the 21st, and in Melville Bay on the 23d, which is sufficiently early. The news respecting the weather received from Mr Krarup Smith and other Danish officials was encouraging. The last winter was very much colder in South Greenland than in the North, owing to strong westerly winds from America. In North Greenland the winter was unusually mild, and much ice kept drifting south until March. At Godhavn the keen temperature of the winter months was from 5 degs. to 13 degs. Fahr. higher than the average, but the spring was more severe than usual. The inferences are that an unusually large quantity of ice has been drifted out of Baffin's Bay, but that there was a check owing to westerly winds in the spring, consequently that this is a favourable season for navigation late in the summer, but not in the early part, and that it would have been a mistake for the Expedition to have reached Melville Bay earlier than the latter half of July. We now have good reason for the hope that the two ships passed through Melville Bay and reached the north water without serious obstruction, especially as the Valorous found the wind blowing from the north-east on July 22, at her furthest northern point off Hare Island, in lat. 70 deg. 35 min. N.

After passing through Melville Bay into the north water, the next step will be to deposit a record and establish a large depot with a boat on the north-westernmost of the Cary Islands. Two large depots of 3600 rations each, being one month's provisions for 120 men, have been prepared, called A and B, which are stored on the upper decks of the Alert and Discovery respectively, ready for landing. The Expedition will proceed from the Cary Islands to the entrance of Smith Sound, when a navigable period, including the whole of August and part of September, will, it is hoped, be before it. A record will be left at Sutherland Island, and if the entrance is fairly clear of ice, also at Littleton Island on the east side. Sutherland Island is the position most easily reached by a vessel coming from the south, and Littleton Island from the north, as there is sure to be always much water in the narrow part of the channel. The ships will then cross to the west shore of Smith Sound, and work their way to the north on that side. If there is much ice north of the Cary Islands, the principal cairn with records will be on Gale Point, south of Cape Isabella. The latest news will probably be found here, for, as is likely, the Discovery winters on the west side of the channel it will be easier for her to communicate with Gale Point South or Cape Isabella than with Littleton Island, owing to the difficulty in crossing Smith Sound. A boat will be landed at Cape Sabine. Depot B will be landed on the western side with a boat and travelling deposits of 240 rations (20 days for 12 men) at three specified points south of the Discovery's winter quarters. Cairns will be built near the depots, with notices buried 20 feet magnetic north of them.

It is hoped that suitable winter quarters will be found for the Discovery on the north shore of Lady Franklin Straits, in lat. 80 N. or a short distance further north. As soon as she is snugly established a depot of 10,000 rations will be formed on shore, together with a supply of coal. Captain Stephenson will then at once throw out hunting parties both to the shore and on the ice to collect food for the dogs.

The Alert, taking two officers and men for two sledges parties from the Discovery will then press onwards alone to the north. Depots and cairns will be landed at intervals of about sixty miles, consisting of 480 rations each, or forty days' provisions for twelve men. With these heavy, undermanned ships, the surest way of reaching the Pole, in the opinion of Captain Nares, is not to risk failure by pushing away from the land. If the Alert can winter even in 84 degrees, and there is land ahead, there is the certainty of attaining a very high northern latitude by sledge travelling, and of exploring the neighbouring coasts, so as to be prepared to advance the ship along known shores during the following season; for Captain Nares considers a second season preferable to pushing away from the land, and thereby risking a winter in the drifting pack, when all chance of exploring is at an end. Consequently, if the land north of Cape Union tends westward, with a navigable sea, but no land in sight to the northward—and Captain Nares has made up his mind to remain by the shore for the first winter—then, with increased knowledge of the trend of the land, and the direction of the prevailing wind, the currents, and having ensured certain communication with the Discovery, the Alert can push boldly northward in the summer of 1876. If, however, there is continuous land to the north, the Alert will be

taken this summer to as high a northern latitude as is possible.

In preparing to face the sufferings and hardships of an Arctic winter, there will be urgent necessity for considering the questions of heating and ventilating, with great care. For the ships have not been fitted with any warming apparatus, as was the case in previous Arctic expeditions, and no carefully thought-out plan has been furnished for guidance. There are the galley and the order service stoves, which give the minimum of heat as the maximum of stoves. The calculation at Portsmouth was that  $\frac{1}{2}$  cwt. of coal would be used each day, or 25 tons a-year, for cooking and warming. 80 lb. were allowed for the galley, 14 lb. for the large stoves. But this is altogether insufficient; the galley fire requires 100 lb. at the very least, the large stoves 28 lb., and the mediums 15 lb. The stoves alone will prove quite inadequate either for the due warming or the wholesome ventilation of the ships, and the officers will be thrown on their own resources to devise some improvement. Mr White has already suggested a plan which will probably be tried. He would have a funnel open at the top to the outer air passing through the upper deck and the lower deck, and then up through the lower deck again, so as to form a siphon. It will then pass out a few inches above the deck, where there would be a valve to regulate the out-flow of the pure hot air, which would rise and diffuse warmth while expelling the vapours.

There will be no want either of occupation or amusement in the long darkness of at least 120 days that the explorers must encounter. The observatory for magnetic observations has been taken out in pieces from England, with no iron in any part, and a copper stove has been supplied for it. This modern edifice will be erected; on shore if the ship succeeds in finding winter quarters in a harbour, and there will be another observatory for the astronomical observations. Thus, the scientific staff will be steadily at work through the winter, while the instruction and amusement of officers and men will be fully provided for. There will be schools for teaching navigation and other branches of knowledge. A large collection of excellent magic-lantern slides furnishes the means of illustrating lectures on astronomy, as well as amusing tales and anecdotes. The ships are hadly supplied with Arctic works, but in other respects the forethought of friends and well-wishers has furnished an excellent and judiciously selected library, which has been catalogued and classified. The Expedition is rich in musical talent, and each ship has a piano and a harmonium. Commander Markham, with Mr Egerton as a confederate, will give entertainments of magic and legerdemain and can perform all conjuring tricks, from the magic bottle to dark seances and clairvoyance. The histrionic talent is also in strong force on board both ships; many presents of dresses and properties were received, including one from Mr Irving; and a magnificent proscenium has been painted for the Alert. There will also be periodical literature and newspapers, besides printed play-bills and notices, the printing department being ably conducted by Lieutenant Giffard and Robert Symons.

As the sun begins to approach the horizon the grand work of the Expedition will commence. The object will be to reach the Pole, and on the return of the supporting sledges much will be done in exploring nearer the ships. The conveyance of a boat with the travelling parties, in the event of meeting open water, is a measure of the greatest importance, and sledges have been provided for that purpose.

The spring travelling of 1876 will probably commence about the 1st of April, and the main attempt will be made by six sledges and fifty-two men—an arrangement which will only leave ten in the ship, including officers. This fact proves how shorthanded the expedition really is. The object of all will be to enable one sledge to approach the North Pole by advancing to the north for fifty-six days, and attaining a distance of 500 miles from the ship.

The grand achievement will be done by a system of depots and auxiliary sledges. Let us call the sledges A, B, C, D, E, and F—five of eight men, and one of twelve men—the object being to enable A to advance singly to the Pole. All start with forty days' provisions, F (the twelve-men sledge) consequently having 480 rations, and the other five 320 rations. After five days F has 432 rations left, and requires 60 to go home. He fills up the other five sledges—who by that time are down to 238 rations—to 320 rations again, leaves 176 rations at the depot 1, and returns—assuming they all started on April 1—on April 10th. He then comes out again to depot 1, consuming 120 rations out and home, and leaves 360 rations, making 536 at the depot. After another five days (ten days in all) E, in like manner fills up the four other sledges to 320 rations, leaves 128 at depot 2, and returns to depot 1 with the 32 that are left to him. He then fills up to 320, goes back to depot 2 with 288, leaves 256 there, making 384 in all, and goes home. Two depots at distances of five and ten days from the ship are now stocked with 216 and 384 rations respectively, and four eight-men sledges are loaded with 40 days' provisions each. Sledges D, C, B, and A then advance for five more days (15 in all), and find themselves with 280 rations. D fills up the other three sledges to 320, and keeps enough to take him back to depot 2 (128 rations), leaving 128 rations at depot 3. He takes enough at depot 2 to take him to the ship and returns home. Three sledges then advance for ten days (25 from the ship), when they have 248 rations left. Sledge C fills up the two others to 320 each, leaves 120 at depot 4, and goes home, taking 40 at depot 3, 40 at depot 2, and 40 at depot 1. B and A then go on until they are 36 days from the ship, when A is filled up to 390 rations, and left to do battle with the unknown obstacles ahead single-handed. B leaves 80 rations at depot 5, takes up 48 at depot 4, 40 at depot 3, the same at the other two, and so reaches the ship.

Sledge A is now 36 marches from the ship, and filled up to forty days' provisions. He presses onward to the North Pole until half are consumed, when he will be 56 marches from home on about May 26, and, we may hope, at the goal. He returns to depot 5 in twenty days more, when all will be consumed. But he there finds 80 rations left by B, which take him to depot 4, where he picks up 48; at depot 3, 40; depot 2, 40; at depot 1, what more he requires, and so returns to the ship after an absence of 112 days. No one who is without experience of Arctic travelling can realise the hardships, dangers, and sufferings that these brave men will encounter and overcome. If ever heroes deserved well of their country for upholding her fame and battling for her interests, assuredly our dear friends now far away in the unknown region will take their places among the foremost. Anxiety for them we cannot but feel, but it may be softened by well-founded hope, and by confidence in their prudence and ability.

As the earlier sledges return they will be able to do much exploring and collecting work, as well as hunting, at shorter distances from the ships. The dogs will chiefly be used in keeping open communications with the Discovery, and the two officers, with their sledge crews, belonging to the Discovery on board the Alert, will return to their own ship, to be met half-way by parties from the Discovery, who will advance as far as 84 N., and remain until May 15 at least. The spring sledging work of the Discovery will be important, and forms an indispensable portion of the scheme. Her parties will continue the exploration of the north coast of Greenland, and a depot will be formed beyond Cape Stanton. A party will go to Hall's grave and examine the stones; another, with dogs, will communicate with the first at the entrance of Smith's Sound, and leave despatches and letters there. It is fully expected that some vessel will go to the entrance of Smith's Sound to communicate and receive news in the summer of 1876, and a boat will probably be sent down by the Discovery during the autumn.

The probability of passing a second winter on the ice, and on the being able to complete the work until 1877, has been considered. If no news is obtained of the Alert by the Discovery in 1876, Captain Stephenson is to make a second attempt to communicate in 1877, but if there is still no news, the Discovery is to land all provisions that can be spared, and to go home in 1877, for it may then be concluded that the Alert has advanced nearer to Cape Bismarck than to Robeson Channel, and may be expected to come out on the East Coast of Greenland. The relief ship, which is to go out in 1877, must, if the Alert has not been heard of, winter at the entrance of Smith Sound. If the Discovery cannot get out before August 1877, she is to endeavour to communicate, by boat or otherwise, with the relief ship, and the officers and crew are to abandon the Discovery early in 1878, leaving her in a safe position, and as habitable as possible.

But if all goes well, the Alert and Discovery will complete their perilous but glorious mission without accident, and return home in the autumn either of 1876 or 1877.



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For the first time, after six years of uncertainty, we have authentic and satisfactory evidence of the course and position of Sir John Franklin in the Arctic Seas. The coast on both sides of Barrow's Straits has now been so carefully and continuously explored as to leave no reasonable doubt that, after wintering in 1846 at Beachry Island, the expedition moved northward to Innes Point, then struck towards the northwest, and entered Wellington Straits; and in the unknown lands or waters beyond that channel, without doubt, the remnants of that company, living or dead, now are. Thus far the researches of the exploring ships ought to be considered as eminently successful. Having ascertained, by their systematic investigations, a vast range of space where the Franklin party are not, they have, by a process of exhaustion, narrowed the inquiry down to a single channel, in which it becomes almost demonstrable that they now are. Wellington Channel is precisely the direction which later investigations show us that Sir John Franklin ought to have taken to find what he went in search

of—the northwest passage. We have taken some pains to look at the various letters and reports of all kinds that have appeared upon the subject, and our conclusion is, that there is no sufficient reason to conclude that Sir John Franklin's company are not still living in the regions beyond Wellington Channel. The probabilities are in favour of their being in safety in those waters, or encamped on those islands, or locked in that ice—whether ice, islands, or open waters are the condition of things beyond those mysterious barriers of human knowledge and human enterprise.

On the nineteenth of May, 1845, Sir John sailed from the Thames with two ships, the *Erebus* and *Terror*, and they were last seen on the twenty-sixth of July in the same year, moored to an iceberg in Baffin's Bay. The whole number of men in the two vessels was one hundred and thirty-eight. The ships were thoroughly well furnished, and had small steam engines, with screw propellers. They were provisioned for three years; but the supplies, with good management, would have sufficed for four years. There is every probability that reindeer and musk oxen frequent the regions of land and ice to which the party have been traced; and fish, no doubt, are to be had. It is a reasonable scientific conjecture, entertained by well-informed persons, that the climate in those regions is milder than it is lower down, where greater amounts of floating ice have become packed. It must be remembered also that the severe cold of those northern latitudes, though causing much suffering and privation, is favorable to the preservation of life. Out of nine expeditions despatched to the Polar Seas, which employed six hundred and nine men, and were of an average duration of three years, no more than seven persons died from causes in any way connected with the expeditions. We entertain very little doubt that a powerful steamer, capable of making its way through the pack-ice, if sent at the earliest possible period of the next summer into Wellington Channel, would find the re-

mains of the Franklin expedition; and if not soon enough to rescue them from death, would at least solve the distressing doubt in which their fate is now wrapt.

Here, then, is a noble occasion for the display of an American superiority in a great moral enterprise, not less signal than those triumphs which have been gained in the rivalries of mechanical arts. The British Admiralty, during the last summer, had before them the proposition of despatching a steamer upon the search, but decided against it! Later explorations increase the probability of Franklin's safety, and at the same time demonstrate that nothing but a strong steamer is capable of reaching him. Let America come promptly forward and say, "If you, to whom, as men of the same nation, the honours of this sacrifice primarily belonged, abandon the man whom you have sent upon your own message, we, as the representatives of humanity, take up the duty, and will not rest until we have reached the martyrs of science." The claims of that exploring party upon the world will be acknowledged by every body as soon as they have been assumed by one; and America will gain an advantage over England worth all the victories she has yet achieved. Such an opportunity may not again occur for a century. The subject of a steamer has been again recently brought before the Admiralty. While they hesitate let us act. Let us take advantage of their unworthy delay, to show them an example of the greatness of view, decision and generosity of this country. "Should we fail," says Lady Franklin respecting the application to the Admiralty, in her last letter to Mr. Grinnell, of date September 12, 1851, "we must look to America alone as our resource. To you will belong all the virtue and credit of continuing the search when our own countrymen fail, and to you will belong the honour and glory of rescuing the distressed, and settling forever that vexed question which for centuries it has been the ambition of Europe, and of England in particular, to solve."

The conduct of Mr. Grinnell has already done infinite honour to this nation. His name will be mentioned through all time among the purest and loftiest that the records of philanthropy preserve. Let his countrymen follow in the path which he has traced. We entertain no expectation that our government can or will take part in further measures. Let the intervention, at the call of humanity, when the British government responds not, be the voluntary act of the people of this land. That would be a fitting reply to the insults which not long since were showered upon our "crotchetty ingenuity" and our "vulgarity of taste." Mr. Grinnell has done his share, and should no longer be taxed. If a committee were appointed in this city to obtain subscriptions for a steamer expedition, we venture to affirm that fifty thousand dollars could be raised in a week. We commend the undertaking to the spirited gentlemen with whom this metropolis abounds. Let it be remembered that the despatch of a vigorous steam vessel in the direction in which it is now agreed that Sir John Franklin is to be looked for, would offer the greatest probability of the discovery of the north-west passage that has ever yet been reached. Should the citizens of America now strike in and carry off the laurels of a labour in which England has been engaged for a century, and which she esteems so momentous that she has offered a reward of twenty thousand pounds as a temptation to enterprise, the causes of rejoicing would be long and deep. It would give us, though late-comers into the field of discovery, the first rank on the rolls of its fame. "It is the only thing in the world," said Sir Martin Frobisher, when attempts were made to dissuade him from engaging in the research, "that is left undone, whereby a notable mind might be made famous and fortunate."

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## THE ARTIC EXPEDITION.

The screw-propeller steam-sloop Rattler, Commander G. W. Smith, commanding party, arrived at Sheerness on Monday at 11h. 30m. o'clock from the Orkney Islands, after having towed the Erebus, Captain Sir John Franklin, and the Terror, Captain Crozier, to Cape Wrath, and thence to the Islands Barra and Bona, situated sixty miles N. W. of the Orkneys, where the ships composing the Artic expedition took their final departure about noon, on the 4th instant, under the auspices of as favourable a breeze as could be well desired to waft them towards the icy region they have been sent to explore. At parting a most exhilarating scene occurred, which will doubtless remain in the memory of all that had the gratification of participating in the farewell cheer to the brave fellows that have volunteered in so laudable and perilous a service. At this time the Erebus and Terror, and Baretto Junior, transport, were hove too, rolling heavily from the violent swell that the recent gales had produced; a signal flying from the mast-head of the Erebus indicated Sir John Franklin's order for all captains to proceed on board to receive their final instructions; this order having been completed, their return to their respective ships was the time chosen for manning the rigging of the two steamers in attendance. At the sound of the boatswain's pipe, the shrouds of the Rattler and Blazer were in one instant lined by their crews, all anxious to outvie each other in the pleasing task they were about to perform. The word was given and three cheers, loud and hearty as ever escaped the lungs of British tars, saluted the ears of Sir John Franklin and his gallant colleagues; in turn the crews of the discovery ships manued their rigging, and with their respective commanders and officers on the quarter-deck gave vent to cheers so long and powerful as to leave not the slightest doubt of the physical energies of the men they came from, and their consequent fitness to encounter the difficulties that may shortly surround them; nor was this the only demonstration of the good feeling that existed between the crews and officers of the expedition and those of the steamers that had accompanied it thus far in its progress towards the long-sought pole, as during their stay at Stromness the captain and officers of the Rattler were not only entertained on board the Erebus, but were also honoured by the company of Sir John Franklin and his officers to dinner on board their own ship in return, and, as might be expected on such an occasion, good wishes without end were mutually exchanged over the parting glass. In reply to an appropriate address from Mr. Robertson, first lieutenant of the Rattler, on behalf of his brother officers, the veteran commander of the squadron expressed in the most feeling manner his acknowledgments for the compliment that had been paid to himself and officers, at the same time adverting in high terms to the power of the Rattler, and the important services the expedition had already received through her able co-operation. The gallant officer also observed that he had hitherto had but few opportunities of witnessing the screw-propeller in practical operation; but from the expeditious manner in which the squadron had been conducted thus far towards its destination,

his anticipations of success were most materially strengthened by its application to the ships under his command; and in expressing this opinion he felt much pleasure in congratulating Mr. F. P. Smith (who was present) on the complete success of his invention. The Erebus and Terror were, on several occasions, both taken in tow at one time by the Rattler, and in calm weather a speed of six and a quarter knots was shown by Massey's log on board each ship. With a strong breeze ahead, and considerable sea, the rate was never less than four knots; but the greatest feat that the screw has yet performed in exhibiting its capabilities for tugging purposes was that of towing both vessels (whose combined tonnage is nearly 700 tons) through the Fifth of Pentland, and thence to Cape Wrath, which was rendered more difficult by the swell then setting in from the Western Ocean, and the consequent breaking of nine-inch hawsers, which were used; at times even two of these immense ropes were insufficient to hold the Erebus and her consort, and the skill evinced by Captain Smith and the officers of the Rattler in re-attaching the parted ships under such adverse circumstances justly merits the high compliment paid to them by Sir John Franklin. The Blazer, Captain Owen Stanley, had assigned to her charge the Baretto transport, and succeeded in towing that vessel through the Firth in good style, considering the roughness of the weather, which evidently had a much greater effect on her paddle-wheels than on the screw of the Rattler, which was remarked by her holding much better way with the vessel in comparison when the water was smooth. The Monkey steam-tug had been in the first instance sent to tow the transport, but that vessel being upwards of 100 tons burden, and laden deeply with stores for the expedition, the Monkey's power was found to be inadequate to the task, except in the finest weather, and the Blazer was accordingly dispatched by the Admiralty to take her place. Prior to the arrival of the Blazer, the Rattler on several occasions had to fetch up the transport, in order that she might not part company with the rest of the squadron. In performing this service her rate in smooth water was seven knots exactly, and with a fresh wind a-head not less than five knots. These results, combined with the fact of the Rattler having during her late trip steamed upwards of 2,000 miles without the slightest derangement to her machinery, cannot fail to confirm the confidence that is daily increasing in this mode of propulsion. It will be gratifying to those that have friends embarked in the Arctic expedition to learn that up to the time of their departure from the steamers no accident had occurred. Sir John Franklin and his associates were in excellent spirits, and full of hope. The next news that may be expected from the discovery, will be by the transport, which leaves them at the edge of the ice. In running from Flamborough Head to Sheerness, a distance of 200 miles, the Rattler accomplished it in twenty-one hours. On her arrival at that place she received orders to come to Woolwich.—*Tablet*